THE LANCET

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

Telegrams—LANCET, WESTRAND LONDON *Telephones*—GERRARD 4314 & 4315 *Offices*—423, Strand, London, W.C.2

No. XXI. OF VOL. II., 1923. **No. 5230. Vol. CCV.** LONDON, SATURDAY, NOVEMBER 24, 1923. Founded 1823. Registered as a Newspaper. Published Weekly. **Pp. 112 Price 1s.** Annual Subscription Inland £2 2s. Abroad £2 10s.

By WILLMOTT EVANS, B.S., B.Sc., F.R.C.S.,
Consulting Surgeon, Royal Free Hospital.

DISEASES OF THE BREAST.

Demy 8vo. 508 pages,
with 106 Illustrations (15 Coloured). 27s. 6d. net.

University of London Press, Ltd., 17, Warwick-square, London, E.C.4

SUPERIOR BOOKS.

BERKELEY & BONNEY'S DIFFICULT OBSTETRICS. 36s. net.
COLLIS & GREENWOOD'S HEALTH OF THE INDUSTRIAL WORKER. 38 Illus. 30s. net.
FALTA'S ENDOCRINE DISEASES. 3rd Ed. 36s. net.
FERGUS ON THE OPHTHALMOSCOPE. 17 Illus. 3s. 6d. net.
GASK & WILSON'S SURGERY. 467 Illus. 30s. net.
MARSHALL'S MICROBIOLOGY. 3rd Ed. 21s. net.
MENNELL'S PRACTICE OF MASSAGE. 2nd Ed. 21s. net.
ROWLANDS & TURNER'S OPERATIONS. 6th Ed. 50s. net.
SEQUEIRA'S DISEASES OF THE SKIN. 3rd Ed. 38s. net.
TAYLOR'S JURISPRUDENCE. 2 Vols. £3 3s. net.
TAYLOR & POULTON'S MEDICINE. 12th Ed. 30s. net.
London: J. & A. Churchill, 7, Great Marlborough-street, W.1.

PATHOLOGICA

1924—VOL. XVI.
Rivista di diffusione mondiale.
Una inesausta miniera di notizie.
Genoa Italy casella postale 884. Annual subscr. £1 8s.

By H. D. GILLIES, C.B.E., F.R.C.S.,
Plastic Surgeon, Queen's Hospital, Sidcup; Prince of Wales' Hospital, London, N.; and St. Andrew's Hospital, Dollis Hill, London.

PLASTIC SURGERY OF THE FACE.

424 pages. 844 Illustrations. Price £3 3s.
Henry Frowde and Hodder & Stoughton,
The *Lancet* Building, 1, Bedford-street, London, W.C.2.

BY W. SOLTAU FENWICK, M.D.

DYSPEPSIA: Its Varieties and Treatment.
(New Edition Shortly)
W. B. Saunders, Ltd., 9, Henrietta-street, W.C.2.

CANCER AND TUMOURS OF THE STOMACH.
362 pages. 10s. 6d.
ULCER OF THE STOMACH AND DUODENUM.
392 pages. 10s. 6d.
J. & A. Churchill, 7, Great Marlborough-street, W.1.

FIFTH EDITION. Demy 8vo. Pp. x. + 242. With 42 Illustrations. Price 10s. 6d. net (postage 9d.).

SQUINT: ITS CAUSES, PATHOLOGY, AND TREATMENT.
By CLAUD A. WORTH, F.R.C.S. Eng.,
Consulting Surgeon, Royal London Ophthalmic Hospital.
Baillière, Tindall & Cox, 8, Henrietta-street, London, W.C.2.

THE LANCET CENTENARY DINNER,

to be held at the Hotel Victoria, Northumberland-avenue, London, W.C., on Thursday, November 29th.

In view of the necessity of making arrangements well in advance, and particularly in order to ensure that friends may be placed together, it is requested that those who intend to be present at the Dinner should signify their intention prior to the 26th November to the Honorary Secretaries.

The charge for the Dinner has been fixed at fifteen shillings, exclusive of wines. Application to be made to

7, Portland Place, London, W.1. H. D. GILLIES, J. H. W. LAING } Hon. Secs.

EARLY BOOKS OF SCIENTIFIC

IMPORTANCE ON MEDICINE AND
NATURAL AND PHYSICAL SCIENCES.
(15th—18th Century.)

Including a number of earlier MSS.

Apply for Bulletin 9 (Just Published).

L'Art Ancien S.A.,
Dealers in Old Books,
Lugano (Switzerland).

SECOND EDITION. In 2 vols. 45s. net.

DEFORMITIES, including DISEASES of the BONES and JOINTS. A Text-book of Orthopædic Surgery. Illustrated by 70 Plates and over 1000 Figures, and by Notes of Cases
By A. H. TUBBY, C.B., C.M.G., M.S.
Second Edition: "The standard text-book in English on the subject."—THE LANCET.
First Edition: "Standard work on the subject in the English language."—BRITISH MEDICAL JOURNAL.
Macmillan & Co., Ltd., St. Martin-street, London, W.C.

Third Edition. With many Illustrations. 12s. 6d. net.

TREATMENT OF DISEASES OF THE SKIN.
By KNOWSLEY SIBLEY, M.D Camb.
London: Edward Arnold & Co., 41 and 43, Maddox-street, W. 1.

NOW READY. Demy 8vo. Pp. xii. + 196. With 50 Figs. Price 10s. 6d. net (postage 6d.).

DISEASES OF THE HEART:
A HANDBOOK FOR PRACTITIONERS AND STUDENTS
CONTAINING AN ACCOUNT OF CLINICAL ELECTROCARDIOGRAPHY.
By I. HARRIS, M.D., L.R.C.P.(Ed.),
Hon. Physician in Charge, Cardiographic Department, Liverpool Northern Hospital.
Baillière, Tindall & Cox, 8, Henrietta St., Covent Garden, W.C.2.

Scudder's Treatment of Fractures New (9th) Edition

"The book is a most comprehensive account of the subject, and can be most strongly recommended."—BRITISH MEDICAL JOURNAL.

By CHARLES L. SCUDDER, M.D., Consulting Surgeon to the Massachusetts General Hospital, Boston. Octavo of 748 pages, with 1252 illustrations. Cloth, 42s. net.

McKenzie's Exercise in Education and Medicine New (3rd) Edition

"An excellent book . . . So well-written that, copious as the volume is, it is interesting to read from end to end."—THE LANCET.

By R. TAIT McKENZIE, B.A., M.D., Professor of Physical Education, University of Pennsylvania. Octavo of 601 pages, with 469 illustrations. Cloth, 24s. net.

Books sent, Carriage Paid, on Receipt of Price.

W. B. Saunders Company, Ltd., 9, *Henrietta Street, London, W.C.2.*

USE LESLIES' ZŌPLA (ZINC OXIDE PLASTER)

A PERFECT STRAPPING

ZŌPLA is tenaciously Self-adhesive, will not slip, will stand any strain imposed on it, is Antiseptic, and is absolutely Non-irritating. The Sale is steadily growing. British Made.

Supplied on White and Flesh-colour Cloths, also on Holland, on Spools ½" to 4", 5 or 10 yard lengths, in rolls 7" and 12" wide. Also on moleskin, chamois leather, felts, and waterproof cloth. **SAMPLES ON REQUEST.**

ZŌPLA is made by the firm with the reputation for BROWN HOLLAND STRAPPING (Original make).

[Telephone—Walthamstow 586

LESLIES LTD., High Street, Walthamstow, LONDON, E.17

ATOPHAN

Schering

The sovereign remedy for GOUT, RHEUMATISM, NEURALGIA.

Schering

VERAMON

Schering

The new analgesic of increased efficacy.

Chemische Fabrik auf Actien (vorm. E. SCHERING) Berlin.

Obtainable from all Wholesale and Retail Chemists and Druggists and Druggists' Sundries Houses.

FOR LITERATURE AND SAMPLES APPLY TO—

A. & M. ZIMMERMANN, Ltd., Lloyds Avenue, London, E.C. 3.

VALENTINE'S PREPARATION
NUTRIO PRIME
MEAT JUICE.
The result of an original Process of Preparing Meat, and extracting its Juice by which the elements of nutrition are obtained in a state, ready for immediate absorption.
DIRECTIONS-Dissolve one teaspoonful of the Preparation in two or three tablespoonfuls of cold or warm water. The use of boiling water changes the character of the preparation.

Valentine's Meat-Juice

For Quieting the Irritable Stomach in Pregnancy, for Rapidly Restoring the Vital Forces in Hemorrhage, for Sustaining and Strengthening in Long and Exhausting Labor, Valentine's Meat-Juice is Extensively employed in

Obstetrical Practice

Dr. M. DeCristoforis, *Prof. Lecturer on Midwifery and Gynæcology, Milan, Italy:* "The preparation, VALENTINE'S MEAT-JUICE, has been successfully used by me in a serious case of acute puerperal hemorrhage. The patient could take no food or drink. VALENTINE'S MEAT-JUICE was completely retained and restored very promptly the strength and the cardiac impulsion."

Dr. E. Duloroy, *Physician Accoucheur to the International Hospital, Paris, France:* "A young accouchée, in a very weak condition and suffering from stomach trouble, could retain no food, but was able to assimilate VALENTINE'S MEAT-JUICE given at first in small doses. An improvement was quickly visible, the patient recovered her strength and is today in good health."

For Sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY.

D 135 **RICHMOND, VIRGINIA, U. S. A.**

THE LANCET

No. 5230. LONDON, SATURDAY, NOVEMBER 24, 1923. Vol. CCV.

CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT.

BRADSHAW LECTURE on Prognosis in Angina Pectoris. By JOHN HAY, D.L., M.D., F.R.C.P.—(*Illustrated*). 1119

A LECTURE on the Treatment of Diabetes Mellitus with Insulin. By O. LEYTON, M.D., D.Sc., F.R.C.P.—(*Illustrated*) 1125

AN ADDRESS on the Progress of Medicine and Surgery in Ireland. By Sir W. I. DE C. WHEELER, M.D., F.R.C.S. 1169

ORIGINAL ARTICLES.

The Pathogenesis of Cerebral Diplegia. By JAMES COLLIER, M.D., F.R.C.P. 1129

The Operation for Elephantiasis Scroti. By H. W. L. WALLER, M.B., Ch.B., D.T.M. .. 1132

CLINICAL AND LABORATORY NOTES.

A Case of Albuminuria of Pregnancy. By FRANK COOK, M.B., F.R.C.S., and VERNON E. LLOYD, *M.C.*, M.B. 1133

Death Following Injection of Diphtheria Antitoxin and Due to Status Lymphaticus. By DONALD MACINTYRE, *M.C.*, M.D., D.P.H., and D. W. MCKAY, M.B., D.P.H. 1133

An Uncommon Case of Typhoid Fever. By ROBERT SWYER, M.R.C.S., D.P.H..... 1134

MEDICAL SOCIETIES.

Royal Society of Medicine: War Section: Treatment of Gonorrhœa... 1134
Section of Ophthalmology..... 1135

Harveian Society: Pitfalls of Medico-Legal Practice 1136

London Association of the Medical Women's Federation: Spa Treatment at Harrogate.... 1138

West Kent Medico-Chirurgical Society.... 1139

Cardiff Medical Society: Psoriasis..... 1139

Newcastle-upon-Tyne, &c., Medical Society 1140

Liverpool Med. Instit. .. 1140

Edinburgh Medico-Chirurgical Society.... 1141

REVIEWS AND NOTICES OF BOOKS.

Relativity: A Systematic Treatment of Einstein's Theory. By J. Rice, M.A. 1142

Relativity and Gravitation: An Elementary Treatise upon Einstein's Theory. By Prof. T. Percy Nunn, M.A., D.Sc. 1142

Jacksonian Essay: The Effects of Radium upon Living Tissues. By Sidney Forsdike, M.D., B.S., F.R.C.S. 1142

Hæmorrhoids. Their Ætiology, Prophylaxis, and Treatment by Means of Injections. By Arthur S. Morley, F.R.C.S. 1142

La Individualità del Sangue nella Biologia, nella Clinica e nella Medicina legale. By Prof. Leone Lattes.... 1142

Die Lungenphthise. Ergebnisse vergleichender Röntgenologisch-Anatomischer Untersuchungen. By Prof. S. Gräff and Prof. L. Küpferle 1143

The Tuberculosis Worker. By Philip P. Jacobs, Ph.D. 1143

Journal of Physiology... 1143

LEADING ARTICLES.

CONVALESCENT CARE ... 1145

THE INTIMATE MECHANISM OF INFECTION 1145

THE SPECIAL COURT OF INQUIRY 1146

MEDICINE AND LITERATURE 1146

ANNOTATIONS.

Dental Board of the United Kingdom 1147

Rapprochement with Veterinary Medicine .. 1148

The Ætiology of Urinary Lithiasis 1149

Hydrogen Cyanide as a Disinfestor of Ships ... 1149

The Outbreak of Dysentery in Devonshire in 1922 1150

Ocular Injuries 1150

The "Black Jack" Signature Books 1150

The Ætiology of Warts and Papillomata 1151

The Prophylaxis of Congenital Syphilis 1151

The Pathology of Torticollis 1151

MODERN TECHNIQUE IN TREATMENT.

XLVI.—Treatment of Varicose Veins. By PHILIP TURNER, M.S., F.R.C.S. 1152

PUBLIC HEALTH SERVICES.

The Working of the Leicester Public Medical Service..... 1154

Reports of Medical Officers of Health: Derbyshire.—Essex.—Isle of Ely.—Dumbartonshire 1155

School Medical Service: Dumfriesshire.—Stockport.—St. Helens 1157

Mental Hospital Reports. 1157

SPECIAL ARTICLES.

Scotland: The Edinburgh Obstetrical Society.—Gifts to Glasgow University 1158

The Parliamentary Election: Medical Candidates..... 1167

The Simmins Appeal Fund 1167

OBITUARY.

Thomas Pridgin Teale, F.R.C.S., M.B., F.R.S.—(*With Portrait*) 1159

Prof. D. W. Finlay, M.D., LL.D. 1161

Charles Richardson, M.R.C.S. 1161

Alexander E. Garrow, M.D., C.M..... 1161

CORRESPONDENCE.

The London Fever Hospital (Sir M. D. Chalmers, K.C.B.) 1162

Annual Meeting of the Fellows and Members of the Royal College of Surgeons of England (Dr. Redmond Roche). 1162

The Importance of Nasal Sinus Infections (Dr. P. Watson-Williams) .. 1162

Epidemic Diaphragmatic Paralysis (Dr. H. W. Leatham) 1163

A Prehistoric Bull (Dr. Vere G. Webb).—(*Illustrated*) 1170

REPORTS AND ANALYTICAL RECORDS.

Bovinine: A Raw Food Extract.—Zinc Oxide Rubber Adhesive Plaster. — Scillaren. — Pineoleum 1144

PARLIAMENTARY INTELLIGENCE.

House of Lords 1163

House of Commons: Panel Doctors' Fees.—European Death-rates.—Venereal Disease.—Insanity.—State of Public Health.—The Tuberculosis Order, 1914 1163

THE SERVICES.

Royal Naval Medical Service.—Royal Army Medical Corps.—Royal Air Force..... 1161

MEDICAL NEWS.

University of London.... 1165

Donations and Bequests . 1141

Rontgen Society 1152

Royal Microscopical Society 1157

The People's League of Health Endowment Fund 1159

A South African "Medical" Prescription 1161

Presentation to Sir Ahred Rice-Oxley 1163

Society of M.O.H. 1165

Fellowship of Med. and Post.-Grad. Med. Assoc. 1165

Roy. Coll. Surg. Eng..... 1165

Society of Apothecaries of London 1166

Small-pox in England and Wales 1166

Manchester Radium Institute..... 1166

Royal Society of Medicine 1166

Internat. Soc. of Applied Psychology in Paris... 1166

University of Manchester 1166

Presentation to Sir F. Mott 1166

A New Ministries' Bill in Ireland 1166

Sanitary Inspectors Exam. Board 1166

Roy. Coll. Phys. Edin. .. 1166

Hospital Finance in London, Liverpool, and Manchester 1166

The Lancaster Medical Book-Club 1166

Society for Constructive Birth Control 1167

Chadwick Public Lectures 1167

Royal United Hosp., Bath 1167

Royal Society of Arts.... 1167

NOTES, COMMENTS, AND ABSTRACTS.

Public Health in St. Lucia 1170

Appointments—Vacancies 1167

Births, Marriages, Deaths 1168

Medical Diary 1168

REJUVENATION. By Dr. JEAN FRUMUSAN, with a Preface by JEAN FINOT. The Duty, the Possibility, and the Means of Regaining Youth. 7th Edition. Translated from the French by ELAINE A. WOOD. Cr. 8vo, 7s. 6d. net; postage 6d.

"Contains much sound common sense, and will well repay perusal by the medical man interested in a fascinating, though somewhat speculative, subject."—*Medical Science Abstracts.*

NOTES ON THE TREATMENT OF MALARIA with the Alkaloids of Cinchona. By WILLIAM FLETCHER M.D. Camb., Bacteriologist, Institute for Medical Research, Kuala Lumpur. With 4 Plates. Cr. 4to, 6s. net; postage 6d.

JOHN BALE, SONS & DANIELSSON, LTD., 83-91, Great Titchfield Street, London, W.1.

CANCER:

THE INCREASING PLAGUE OF THE CENTURY.

By GEORGE BURFORD, M.B., C.M.,

Senior Consulting Physician for Diseases of Women to the London Homœopathic Hospital; Fellow of the Royal Society of Medicine.

LONDON:

JOHN BALE, SONS & DANIELSSON, LTD., 83-91, Great Titchfield Street, Oxford Street, W.1.

HENRY J. GLAISHER, 55, Wigmore St., Cavendish Square, W.1.

THE HOMŒOPATHIC PUBLISHING COMPANY, 12, Warwick Lane, E.C.4.

Price 3s. 6d. net, by post 3s. 9d.

Vitamins 18s.

A Critical Survey of the Theory of Accessory Food Factors.
By RAGNAR BERG. Translated by EDEN and CEDAR PAUL.

"In this new and exhaustive work the whole subject is discussed ....with intelligible phraseology and encyclopædic thoroughness."
—*Observer.*

How Shall I be Saved from Consumption?

By Dr. HENRY A. ELLIS. 6s.

The author's varied experience of all kinds of institutions connected with tubercle makes his opinion most valuable to both the profession and general public, although some of the opinions expressed may give rise to discussion.

Ductless and Other Glands

By Prof. FRED. E. WYNNE. 4s. 6d.

"A lucid and stimulating account of a complex and increasingly important branch of medical science."—*Manchester Guardian.*

GEORGE ALLEN & UNWIN, LIMITED,
40, MUSEUM STREET, W.C.1.

Price 1s. With Illustrations.

APPLICATION OF TRUSSES

to HERNIÆ. Clinical Lecture delivered at King's College Hospital. By the late JOHN WOOD, F.R.S., Senior Surgeon to King's College Hospital. Reprinted from "Medical Examiner."

London: Matthews Brothers, 10, New Oxford Street, W.C.

STAMMERING, SPEECH DEFECTS, VOICE TRAINING.

BEHNKE METHOD. Est. 1882.

Carried on by Miss BEHNKE, at 39, Earl's Court-square, S.W.5. Cases also received into residence, summer holidays, at Miss Behnke's house in the country. Early application necessary.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—*The Times.*

"Thoroughly physiological principles."—*The Lancet.*

"The method is scientifically correct and perfectly effective."—*Guy's Hospital Gazette.*

From a Harley Street Specialist.—"The condition is to a great extent a psychical one, and the admirable results obtained by yourself and your parents have in my opinion been to a great extent due to your personal psychical influence over your subjects. You are at liberty to use this expression of my opinion." (*This letter may be seen.*)

"Stammering: Cleft Palate Speech: Lisping." 3s. 9d. post free.
Of Miss BEHNKE, 39, Earl's Court-square, S.W.5.

WISE PARENTHOOD

THE HANDBOOK ON BIRTH CONTROL FOR MARRIED PEOPLE.

By MARIE STOPES, D.Sc., Ph.D.,
Author of "Married Love" "Radiant Motherhood" "Contraception" etc.

11th Edition, Revised and Enlarged.

3/6 net (post 3d.).

WISE PARENTHOOD is specially suited for Doctors to recommend to enquiring Patients. Written in clear non-technical language, it meets the æsthetic difficulties while at the same time giving practical and scientific advice to all those who are interested in the subject.

Descriptive circulars of this and Dr. Stopes's other books can be had on application.

G. P. PUTNAM'S SONS, LTD., 24, Bedford St., W.C.2.

Works by Sir Charles A. Ballance, K.C.M.G., etc.

A GLIMPSE INTO THE HISTORY OF THE SURGERY OF THE BRAIN. 10s. 6d. net.

ESSAYS ON THE SURGERY OF THE TEMPORAL BONE. £7 7s. net.

THE SURGERY OF THE HEART. 10s. 6d. net.

Macmillan and Co.

STAMMERING

W. J. KETLEY, "Tarrangower," Brondesbury, N.W.

30 years colleague of late B. BEASLEY, Brampton Park, Huntingdon.

Those interested in the subject should write for his book, which will be sent post free.

ELLIS'S MEDICAL BOOKSERVICE

FOR PROMPT SUPPLY AND DESPATCH OF

ALL LATEST MEDICAL PUBLICATIONS.

NEW 1923 CATALOGUE of current works in Medicine, Surgery and Allied Sciences (including notices of forthcoming publications) sent gratis and post free on application.

N.B.—A special edition, cloth bound and interleaved, can be supplied at a nominal charge of 2/-

NEW BOOK SALOON AND READING ROOM—FIRST FLOOR.

Special Saloon for sale of slightly soiled ex-library copies at **greatly reduced prices** is now open upon the third floor.

(Lists of secondhand volumes cannot be sent as the stock is changing rapidly, but every effort will be made to reserve volumes selected.)

Address for all Communications:
H. R. ELLIS, Medical Bookseller, Telephone: City 8281. Telegrams: Nuhooque, Cent. London. **9, Lovell's Court, Paternoster Row, London, E.C.4.**

WRIGHT'S INDEX SERIES IN MEDICINE & SURGERY. Reduced Price for the Complete set, £5 14s. net.

Third Edition. 31st Thousand. 39 Coloured Plates and 306 Illustrations. 932 pages. £2 2s. net. Postage 1s.

An Index of Differential
DIAGNOSIS
of Main Symptoms.

Edited by HERBERT FRENCH, C.B.E., M.A., M.D. (Oxon.), F.R.C.P. (Lond.), Phys. to H.M. Household; Phys. and Lect., Guy's Hosp., etc.

In conjunction with 22 Distinguished Contributors.

"*It should be in the hands of all practitioners and senior students.*"—BRITISH MEDICAL JOURNAL.

Eighth Edition. 30th Thousand. Fully Revised and Enlarged. 1,040 pages. Illustrated. £2 2s. net. Postage 1s.

An Index of
TREATMENT
A Complete Guide to Treatment in a form convenient for Reference.

Edited by ROBERT HUTCHISON, M.D., F.R.C.P., Physician to the London Hospital; and JAMES SHERREN, C.B.E., F.R.C.S., Surgeon to the London Hospital.

In conjunction with 100 Distinguished Contributors.

"*Should be in the hands of every practitioner of medicine.*"—BRITISH MEDICAL JOURNAL.

Third Edition. Fully Revised and Enlarged. 600 pages. £2 2s. net. Postage 9d.

An Index of
PROGNOSIS
AND
End-Results of Treatment.

Edited by A. RENDLE SHORT, M.D., B.S., B.Sc. (Lond.), F.R.C.S. (Eng.), Exam. for First F.R.C.S.; Surgeon, Bristol Royal Infirmary; Lecturer on Physiology, University of Bristol.

In conjunction with 24 Distinguished Contributors.

"*We have formed a high opinion of the value of this work.*"—BRITISH MEDICAL JOURNAL.

London: SIMPKIN & CO. Ltd. **Bristol: JOHN WRIGHT & SONS Ltd.**

Bradshaw Lecture

ON

PROGNOSIS IN ANGINA PECTORIS.

Delivered before the Royal College of Physicians of London on Nov. 1st, 1923,

BY JOHN HAY, D.L., M.D. MANCH., F.R.C.P. LOND.,

HONORARY PHYSICIAN, ROYAL INFIRMARY, LIVERPOOL.

PROGNOSIS is one of the more fascinating aspects of medicine. It is a balancing of the probabilities, and demands a wide experience, an intimate knowledge and a keen sense of proportion, combined with an instinctive capacity for weighing imponderables. Familial tendencies, the past history of the patient, the objective signs of actual disease, and those subtle but significant subjective discomforts pointing to depreciation of function, must all be passed in review, and their relative importance weighed before venturing on a verdict.

There are few conditions in which a clear statement as to the future is more anxiously demanded than where pain of an anginal nature has manifested itself, for the victim is conscious that in him "the unseen seat of life and the target of death" is mortally attacked—there is with each paroxysm an ominous trembling of the very foundations of a man's being which leaves behind it a shaken and apprehensive soul. The problem of assessing the expectation of life under these conditions is most difficult, and even after careful consideration of all the facts and an attempt to view the symptoms in their correct perspective, an accurate opinion is not easily attained. The prognosis given may be entirely justifiable and yet prove far from the truth, for there are always factors beyond assessment. Where so much is uncertain we must seek for any solid ground on which to base our opinion.

I have recently reviewed the records of 309 patients in whom the dominant feature was pain of an anginal type, in an attempt to formulate the results of my personal experience; and I have dealt with them more particularly in relation to prognosis. It is this aspect of the problem which I thought might usefully serve as a subject for our consideration. It is not my intention to enter the debatable ground either of the essential nature of angina or of the special pathological changes which are said by some to be causally inevitable. We are now dealing, not so much with the interpretation of the pain in angina, as with the mortality. It is sufficient to point out that two of the greatest living authorities, both distinguished physicians, and men who have devoted many years of their lives to this very subject, have arrived at diametrically opposite conclusions.

I refer, of course, to Sir Clifford Allbutt and to Sir James Mackenzie. The latter holds that in angina the symptoms are produced by exhaustion of the heart muscle and he stresses the importance of coronary and myocardial disease. He concludes that angina is a symptom-complex rather than a disease. Sir Clifford Allbutt states with no uncertain voice that angina *is* in truth a disease, and that the symptoms are due, in say 90 per cent. of the cases, "to disease of the thoracic aorta and especially of its outer investment," and further, "that the coronary arteries and the myocardium have nothing to do with the pain of angina." In fact, with good-natured disapproval, he terms this view "a stiffnecked assumption."

CAUSATIVE FACTORS OF ANGINAL PAIN.

Whichever of these two views we are disposed to accept as the more correct, it will be generally conceded that anginal pain is the resultant of two factors: (1) Afferent stimuli passing from the heart and aorta; and (2) the sensitiveness of the receiving apparatus; in other words, of those levels of the central nervous system associated with the heart and aorta. It is to Sir James Mackenzie that we are more particularly indebted for the full appreciation of the importance of this latter factor.

From the interaction of these two we have pain, and the accuracy of prognosis will depend on a careful consideration of both, and a decision as to which of the two is dominant. The more exalted the sensitiveness of the segments involved the more susceptible to stimulation, then the less ominous the outlook and the greater the ground for hope of a satisfactory response to treatment. On the other hand, the second essential matter for investigation is the reserve power of the heart, the health of the aorta, arteries, and myocardium, and also the permanent load on the heart or the work that it is called upon to perform, independently of any physical effort.

My series includes both private and hospital patients, and, in accordance with the usual experience, the large majority were private. There were 309 patients in the series up to the end of July, 1923.

TABLE I.

309 Cases of Angina.—Males, 243; females, 66 (proportion 3·7 : 1).

V.D.H.—35 cases: males, 30; females, 5. Aortic valves diseased in 34, mitral stenosis uncomplicated in 1.

Systolic Blood Pressure.—(35 V.D.H. patients not included.)

—	mm. Hg.			
	Under 150.	150 179.	180 199.	200 and over.
Males, 206	73	62	28	43
Females, 59	10	12	10	27

Systolic Blood Pressure 180 mm. Hg and over:—

Males .. 71 in 206 = 34·5 per cent.
Females .. 37 in 59 = 62·7 ,,

Total .. 108 in 265 = 40·7 ,,

Table I. gives information concerning the type of patient, the height of the systolic blood pressure, and the incidence of valvular disease. There were 35, or 11·3 per cent., in whom I had made a diagnosis of valvular disease of the heart. On analysis of these it was found that, with one exception, the aortic valves were damaged. There was definite aortic regurgitation in 26, and some degree of aortic obstruction in ten patients. In the whole group of 35, only one patient suffered from frank uncomplicated mitral stenosis.

Two among many points of interest particularly attract our attention: (1) The relation of the electrocardiographic (E.C.G.) findings to prognosis; (2) the diagnosis and prognosis of minor angina.

Before considering them, a general but cursory survey of the problem may be permitted, and it would be well to state at once what the term "angina" signifies.

SIGNIFICATION OF THE TERM "ANGINA."

By angina pectoris I have in mind an arresting form of cardiac pain, substernal rather than submammary, in which the patient is conscious of a sense of oppression, or constriction, which may reach a high grade of intensity, even a condition of intolerable anguish. This pain has certain well-recognised lines of radiation and is often induced by effort or emotion. There are, in addition, characteristic associated symptoms not invariably present, notably the sense of impending death, and indescribable anguish of mind accompanied by varying vaso-motor disorders such as cold sweats and deathly pallor.

It is well to remember that the information desired by the patient and his friends refers more often to the duration of life than to the mode of death, although the latter is not infrequently the subject of their inquiries.

CAUSES OF DEATH IN ANGINOUS PATIENTS.

The first important factor when considering the mortality is to recognise clearly that an anginous patient does not necessarily die in an anginal seizure, but frequently from other and less dramatic causes. A number pass away quietly in their sleep without apparent distress, or death may be sudden and painless apart from sleep. In these cases the final event is probably that of fibrillation of the ventricle, and is without any direct relationship to an anginal attack. A large group is that formed by those who die the slow death of progressive cardiac failure. Then there are those who succumb to cerebral hæmorrhage, while a few die from uræmia with its protean manifestations; and, as one would expect in a malady which may persist for years, many die from causes remote from the angina and its associated pathological conditions.

I have been able to obtain information concerning the mode of death in 65 patients.

Of these, 32·3 per cent. died in or immediately after an anginal attack; and 21·6 per cent. died either in their sleep or suddenly—a total of 37 in 65. Twelve died from cardiac failure, and 16 from a variety of causes, some quite independent of the anginal condition. These are given in Table II.

TABLE II.

Anginal attack	21	Died in sleep	4
Sudden death	12	Cardiac failure	12
Other causes	16		

(Diseases of kidneys, 3; diabetes, 1; cerebral hæmorrhage, 2; pneumonia, 1; gangrene of legs, 1; gangrene of lungs, 1; influenza and bronchitis, 1; suicide, 1; sarcoma, 2; senility, 1; pernicious anæmia, 2.)

If we accept the view that sudden death in these patients is usually due to fibrillation of the ventricle, and the evidence, clinical and experimental, favours this supposition, it is of interest to consider the factors predisposing to this lethal tumult of the myocardium. This has a definite bearing on prognosis.

Prof. J. A. MacWilliam pointed out in August last[1] that the exciting cause of fibrillation is "an increased demand on the powers of the heart and more or less stress on the organ"—for example, muscular effort or emotional excitement. Fortunately such factors leave the normal heart unaffected and are capable of inducing fibrillation only when the heart is in an abnormal condition of excessive susceptibility. Certain drugs, such as digitalis, increase the liability to fibrillation and there are probably other drugs and abnormal conditions with a similar tendency, but a "prominent part in the setting up of abnormal susceptibility to fibrillation must be assigned to defective coronary blood-supply." The condition of the coronary arteries is, therefore, one important factor to be considered when estimating the liability to sudden death.

The liability to death *during* an anginal seizure in any particular case is almost incalculable, and I frankly admit that I know of no certain rule by which one can decide the probability of a sudden, dramatic, and painful exitus. An increase in the frequency and severity of the attacks is obviously ominous, but even when this increases manifest uncertainty is still present. An anginal seizure may come like a bolt from the blue. The first attack may be the last, with possibly no premonitory sign or signs to indicate that death is on the threshold.

It is well recognised that the severity and gravity of the initial seizure give no indication of the liability to an early recurrence, though in the presence of the attack itself, confronted by the physical and mental distress, it is difficult and almost impossible to take this dispassionate view. Again, it is equally if not more important to appreciate the significance of some of the minor but ominous substernal sensations, often so lightly dismissed. If, however, the patient survives the first stormy onset, years may pass before there is any recurrence of a comparable severity.

[1] Brit. Med. Jour., 1923, ii., 218.

EXPECTATION OF LIFE IN ANGINOUS PATIENTS.

While recognising the elusive and incalculable element of uncertainty, and frankly admitting the possibility of a sudden and terminal anginal seizure, I believe that the expectation of life in these patients can be predicted with some degree of justifiable confidence. The outlook depends on the integrity of the myocardium, and the health of the general arterial tree. It will depend also on the degree of coöperation given by the patient, who must be honest with himself and prepared to live down to the level of his damaged organs. Death is often the outcome of the associated conditions, and the cry of the heart is nothing more than the signal that it also is involved in the general depreciation. Whatever indicates a tendency to cardiac failure is of significance, and search must be made for every evidence of myocardial disease or functional impairment. It is significant that the first symptom of angina can often be related to some sharp illness, involving a pyrexia of possibly only a few days' duration. Such a history, if recent, indicates caution in offering an opinion as to the prognosis, until sufficient time has been allowed for the myocardium to recover.

Dyspnœa.

One indication of an impaired myocardium is, of course, dyspnœa. This symptom, though frequently present in patients who suffer from angina, is not a characteristic feature of an anginal seizure. It is not an element in the diagnosis, but it is a valuable aid in prognosis, as an indication of myocardial inadequacy. When dyspnœa is induced easily in an anginal patient who presents a normal blood pressure, with no demonstrable enlargement of the heart and no valvular disease, one is justified in suspecting a defective blood-supply to the myocardium, unless there is some definite history suggesting a temporary toxæmia of the heart muscle. In these cases the prognosis would be grave, and still more grave if the liability to the dyspnœa and pain, or both, is more and more easily induced in spite of a carefully regulated life.

Pulsus Alternans.

As another sign of value I would mention the pulsus alternans, the ominous significance of which is not sufficiently appreciated. I think this is partly due to the fact that this variety of pulse is not readily recognised and is apt to be confounded with other and innocuous forms of arrhythmia. It is characterised by an alternate lessening of the amplitude of the arterial pulse, the pulse remaining regular in time, and it is most easily perceived when recording the blood pressure. As the pressure in the embracing armlet rises the smaller and alternate pulse is obliterated, and the pulse-rate at the wrist is suddenly halved. A polygraph record enables the transient appearance of this irregularity to be noted, when it occurs for a few seconds after the appearance of an extra-systole, or after exercise. When appearing in patients who suffer from anginal attacks, it is a sign of undoubted significance, and it in itself would justify a very grave prognosis.

However, pulsus alternans is rarely the only untoward manifestation, being usually accompanied by other indications of cardiac distress—such as an increasing breathlessness, attacks of nocturnal dyspnœa, or even of periodic breathing. As with dyspnœa, it is not a symptom or indication of angina, but it does give a clear lead as to prognosis in any anginal patient. In them it is a manifestation of distress, and probably has for a pathological basis fibrosis of the myocardium. Dr. Davenport Windle[2] goes so far as to say that "in any patient with arterial disease and alternating pulse, anginal attacks have occurred or will occur sooner or later, unless dropsy sets in, when, if present, they will cease." In his series of 17 cases no patient lived longer than 17 months after the presence of pulsus alternans.

My experience is that it is not a common sign, but this is perhaps due to the fact that I have not had the

[2] THE LANCET, 1911, i., 1260.

opportunity of watching the patients day by day, and of observing them after exercise, and on those occasions when premature beats were in evidence, for under such conditions a latent alternation becomes frankly evident. I have, however, noted alternation in 12 anginal patients. Of these, ten are dead, and the average duration of life in this 10 was 9 months, two living 25 months after the alternation was observed. An anginal patient who presents well-marked alternation is not likely to live beyond 12 to 18 months.

Raised Blood Pressure.

On analysing the records it is clear that one of the commonest abnormal conditions associated with angina pectoris is a raised blood pressure. In 300 patients, after exclusion of the 35 suffering from valvular disease of the heart, and 9 in whom there was no record of the blood pressure, 108 (40 per cent.) had a systolic blood pressure of 180 mm. Hg and over. These 108 comprised 71 males (out of 206, that is, 34·5 per cent.) and 37 females (out of 59, or 62·7 per cent.). It is noteworthy that among the women the percentage of cases with a high blood pressure is much greater than among the men.

Certain of these patients will be suffering from chronic interstitial nephritis, and in them the prognosis will be influenced by the result of tests undertaken to determine the renal efficiency, and by the appearances present in the retina and optic discs.

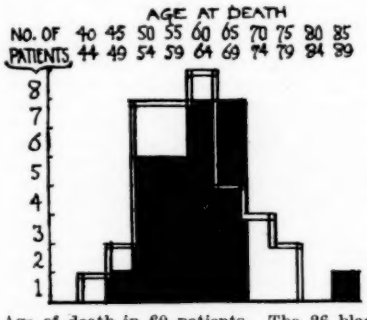
The significance of hypertension, apart from the possibility of associated kidney disease, lies in the fact that a raised blood pressure adds to the load which the heart carries, and in addition is generally associated with a diffuse arterio-sclerosis; so that this type of patient is predisposed to cardiac distress and cerebral accidents. Even so, the careful figures of Mackenzie[3] indicate that the expectation of life in anginal patients is not materially modified by an associated high blood pressure. This is an unexpected finding. In his series the mortality curve of those patients with a systolic blood pressure of 180 mm. Hg and over, followed very closely that of the mortality curve of the whole series, though, if anything, death occurred a little earlier in his high blood pressure cases.

The impression I have formed is, that if it be found possible to modify even slightly an excessive blood pressure, the symptoms of the patient are ameliorated, but I do not find that the expectation of life has been appreciably increased.

Age at Death of Anginous Patients.

I have records of the age at death and the duration of anginal symptoms in 60 patients. In 26 the systolic blood pressure was 180 mm. Hg or over—in them the average age at death was 60·8 years, and with only two exceptions death occurred between the ages of 50 and 70. In the other 34 patients the systolic blood pressure was below 180 mm. Hg, and the average age at death—59·5 years—varied only slightly from the high pressure group. I was surprised to find that the average duration of life from the first appearance of anginal pain was, in fact, shorter in the low pressure group. It was 3½ years as compared with 4¼ years in the high pressure group. Fig. 1 shows graphically the age at death in the two groups.

FIG. 1.

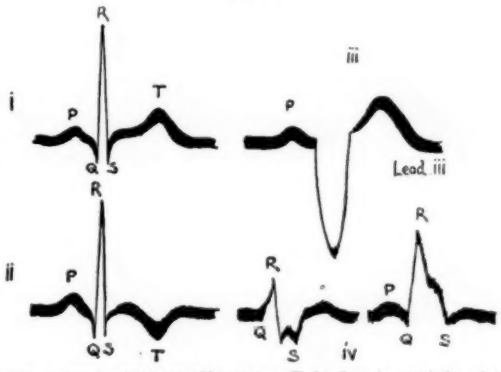


Age of death in 60 patients. The 26 black squares represent patients with a systolic blood pressure of 180 mm. Hg or over. The 34 squares surrounded by double lines represent patients with a systolic blood pressure below 180 mm. Hg.

THE ELECTROCARDIOGRAPH IN PROGNOSIS.

Within recent years the functioning power and integrity of the myocardium have been investigated by means of the string galvanometer, and attempts have been made to correlate changes in the shape of the E.C.G. with prognosis. The fullest reports dealing with this have been from the Mayo Clinic at Rochester, by F. A. Willius,[4] who has kept careful records since 1914, the after-history of every patient being watched. J. E. McIlwaine and J. B. Boyd Campbell[5] have recently published interesting figures bearing on this subject; while B. S. Oppenheimer and N. A. Rothschild, in 1917,[6] reported 62 cases in which the Q-R-S complex in the E.C.G. was abnormal; 27 of these cases were patients suffering from angina. The average age of the 62 patients was 54. Within two years 50 per cent. were dead. They compare this death-rate with that of 22 other anginas in whom the E.C.G. were normal. The average age of this second group was 52. During a similar period only one in this group is known to have died; 17 of the 22 were known to be alive at the date of publication—16 fairly well and one in a precarious state. Figures such as these and those to be mentioned are arresting.

FIG. 2.



i. The normal electrocardiogram; P is due to systole of the auricles, Q, R, S, and T to systole of the ventricles. ii. Inversion of the T deflection, or T wave negativity. iii. The diphasic complex resulting from a lesion in the right branch of the bundle; the curve is reversed in a lesion of the left branch. iv. Two examples of "spread" of the Q-R-S complex; compare these with the normal Q, R, S in (i.) and (ii.). Inversion of T is only of significance in the absence of digitalis medication.

Hitherto the E.C.G. has been chiefly of value in analysing the various forms of arrhythmia. There are reasons for believing that in it we may find valuable assistance in prognosis. An E.C.G. represents graphically the variations in electric potential associated with each contraction of the heart. A normal systole is a coördinated contraction of the myocardium in response to a stimulus reaching it along well-recognised channels. Under normal conditions the stimulus does not reach the whole myocardium simultaneously, but in an ordered sequence. It flows along the conducting channels and reaches the various areas of the myocardium at such times and in such a manner that the resultant systole of the whole heart is an efficient coördinated movement. Any break in the functional continuity of the conducting channels causes a deviation from this orderly sequence. These deviations are revealed in the E.C.G.

An abnormal E.C.G., therefore, indicates that the fibres or groups of fibres composing the heart muscle did not contract in their proper relation one to

[3] Angina Pectoris, pp. 115–116.

[4] Archives of Internal Medicine, vol. xxx., No. 4, p. 434.

[5] Brit. Med. Jour., Sept. 15th, 1923.

[6] Journal of American Med. Association, 1917.

the other. The commonest cause for this is some organic change in the myocardium, damaging or destroying the junctional tissues, the auriculo-ventricular (*a.-v.*) bundle, and Purkinje system: but functional block due to some temporary cause may be solely responsible. An outstanding example of this change in the E.C.G. curve is met with when disease obliterates one branch of the *a.-v.* bundle. There is then a complete alteration in the ventricular complex. There are also numerous other less dramatic deviations which have a definite significance. These are shown in Fig. 2. It is suggested that such abnormalities in the E.C.G. can be utilised in arriving at a prognosis.

Willius started with the assumption that there *is* a relationship between an abnormal E.C.G. and the expectation of life, and he arranged those patients yielding an abnormal E.C.G. into three groups: (1) With significant T wave negativity, an inverted T; (2) with aberration or spreading of the Q-R-S complex in all derivations; and (3) with coexistence of these abnormalities, E.C.G. combining (1) and (2). Under each of these headings patients were arranged in clinical groups, and a careful series of controls collected comparable in age, sex, clinical type, and degree of decompensation. The total number of patients observed was 696, over a period of 5½ years. I have abstracted his figures dealing with angina, and they are as given in Table III.

TABLE III.—*Cases of Angina (Willius).*

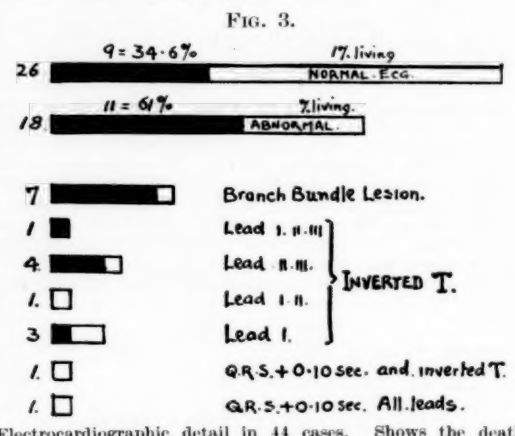
—	Total.	Heard from.	Dead.	Mortality per cent.	Controls. Total.	Heard from.	Dead.	Mortality per cent.
A.—Inverted T:—								
Leads 1; 1 & 2; 2 & 3; 1, 2, & 3	58	47	27	60·0	58	43	11	25·5
B.—Q, R, S + 0·10 sec.:—								
All leads	10	9	6	66·6	10	6	2	33·3
Combination A + B ..	13	11	10	90·9	13	11	3	27·2
Grand total ..	81	65	43	66·0	81	60	16	27·0

We see, therefore, that Willius dealt with 81 cases of angina manifesting certain definite abnormalities, and with 81 controls—patients comparable in every way except that their E.C.G.'s were normal. He obtained full information concerning 65 patients, and of these, 43 died—giving a mortality of 66 per cent. In the 81 controls full information was obtained in 60, of whom 16 were dead—a mortality of 27 per cent. Willius has no hesitation in stating that the higher mortality is the result of vascular degeneration of the obliterative type, and he considers that the abnormalities in the E.C.G. are directly caused by these degenerative processes.

We cannot take this view as proven, though I believe we may fairly say that, other things being equal, an abnormal E.C.G. indicates the probability of degenerative changes in the myocardium, and in consequence a diminished expectation of life.

My personal experience is limited. I have taken E.C.G. records in 60 cases of angina, but as 16 of these have come under observation during the last six months they are not included, thus leaving 44 to be considered. Of these the E.C.G. was normal in 26. Nine are dead (one dying from pernicious anæmia), giving a mortality of 34·6 per cent. Of the 18 showing definite indications of abnormal conduction, 11 are known to be dead—a mortality of 61 per cent. The details are given in Fig. 3. In seven there was clear evidence of branch bundle block—six are dead. The duration of life after the onset of anginal symptoms was relatively short in each of the six. Dr. McIlwaine[5] has reported 15 patients with a branch bundle block, all of whom died in the course of 12 months—a mortality of 100 per cent. Of the 44 anginal patients there were 18 in whom it has been possible to determine the duration of the anginal symptoms from their onset up to death. In 11 with a normal E.C.G. the average duration of life from the onset of anginal symptoms to death was 4⅝ years; whereas in the smaller group of seven abnormal E.C.G. the expectation of life was only 2¼ years. These figures, though small, definitely corroborate the results obtained by Willius, McIlwaine, and others.

FIG. 3.



Electrocardiographic detail in 44 cases. Shows the deaths occurring in the 44 patients referred to in the text. The figures to the left indicate the number of patients represented by the corresponding column. The black spaces indicate the dead.

To me they are convincing, and bring us back to our original standpoint. We can find sure ground on which to base our prognosis in the integrity of the heart and arteries. The mortality in angina pectoris varies with the health of the myocardium.

ANGINA MINOR.

Than Sir Clifford Allbutt[7] no writer has laid greater emphasis on the importance of confining the term "angina" to a group of cases in which there is, as the pathological basis, a lesion of the presigmoid area of the aorta; nor one who looks more suspiciously at any diagnosis which does not conform strictly to type. Yet even Sir Clifford Allbutt admits and emphasises the gravity of minor angina, and no one has more aptly coined phrases to convey the sinister significance of certain slight and transient symptoms. If I interpret Sir William Osler[8] correctly he considered the term angina minor as applicable to the neurotic, toxic, and vaso-motor groups, and excluded those patients presenting signs of cardio-vascular disease. I hardly think this a satisfactory use of the term. Angina minor indicates rather a transient or mild attack of anginal pain, but of so moderate and mitigated a severity that there is a risk of it being passed over as of little moment. Such cases I desire to emphasise, for they are neither uncommon nor without importance. In them the prognosis is often gravely at fault, in most instances because of an incorrect or an inadequate diagnosis. The symptoms are not recognised as anginal, and their ominous significance is overlooked. The cardiac origin of the symptoms, even when suspected, is too often dismissed and some other explanation is offered, because on examination no evidence may be forthcoming of cardio-vascular disease. The diagnosis must therefore be made in many of these patients on the subjective manifestations alone. These minor distresses may occur as premonitory warnings and are as essentially anginal as the obvious major seizure, for as Sir Clifford Allbutt says, "The first muffled aortic groan is but the prelude to the fiercer pang of stark angina." On the other hand, the major and minor may alternate, or the minor may come as an aftermath or echo of a previous major attack. Such are of a particular

[7] Disease of the Arteries, including Angina Pectoris, vol. ii.
[8] The Lumleian Lectures on Angina Pectoris, THE LANCET, 1910, i., 697.

interest to every clinician, because the nature of the malady has then been openly declared.

An accurate prognosis depends upon the recognition of the significance of these minor anginas. It is remarkable how frequently one elicits a history of slight substernal pain or other discomfort, sometimes in peculiar and unusual sites, which arises as the result of effort, exposure, or excitement in patients who finally present the typical clinical picture of grave angina.

It is not surprising that these early manifestations are often misinterpreted. For example :—

The first indication of angina in a man of 60 was a pain situated just below the level of the thyroid on each side of the trachea, gripping in character and induced by exertion; in a few months this was accompanied by substernal pain of a moderate intensity. Six months from the onset he was suddenly seized by paroxysms of anginal pain, lasting with varying intensity for 12 hours, during which his life was despaired of.

As a typical example of a minor angina the following will serve :—

A man of 64 complained of a gripping pain of moderate intensity and a sensation of pressure, unaccompanied by any dyspnœa. The pain was substernal, at the level of the third space, and covered an area the size of a crown. It was induced by walking and ceased at once when he stood still. If he persisted pain and numbness appeared in the left forearm and hand. He first suffered in this way for two years and had been under continuous treatment for "indigestion."

In another patient, a man of 56, the first indication of trouble dates back to December, 1920, and consisted in pain across the chest at the level of the nipples brought on by walking up a slight incline. If he stood still it subsided. It ceased to trouble him, but recurred in March, 1921, when a diagnosis was made of "indigestion" but, as the doctor said, "with mental reservations." A fortnight later he had five attacks of severe angina arising in the same area, and accompanied by pain extending from the tip of each shoulder down the arms to the thumbs. He thought he was dying during the acme of the attack, and was left emotional and depressed.

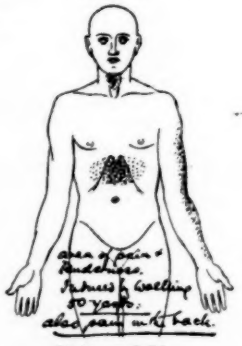
It would be easy to relate many similar instances where the slight and transient symptoms were followed by the overwhelming distress of unquestioned angina. Probably the most common error is that of labelling the discomfort of minor angina "indigestion," as in the cases just related; and this diagnosis is often accepted until the patient is in the grip of a major attack when, too late, the import of the previous "indigestion" is obvious.

The only safe course is to view with suspicion everyone over middle age whose "indigestion" is induced by effort or exposure to cold, and which fades away on the cessation of stress or when the patient gets comfortably warm. Such a history calls for careful examination of the whole cardio-vascular system. This discomfort is usually substernal, a sense of tightness over the lower third of the sternum, sometimes confined to the area of the xiphisternum, more rarely definitely localised in the epigastrium, "the pit of the stomach."

This feeling of weight or oppression may be transient or of some duration. It may be the precursor of a devastating seizure or jog the memory of the patient and remind him of a former and terrible experience. The peculiar feeling of imprisoned flatus lodged behind the lower third of the sternum, or the sensation of food having "stuck on the way down" are suggestive. It is often true that with these substernal sensations there is an element of uneasy apprehension. I have seen 16 patients in whom the pain was definitely confined to the epigastrium, or took the epigastrium as its starting-point—spreading upwards behind the sternum if the patient persisted in the effort which induced the pain.

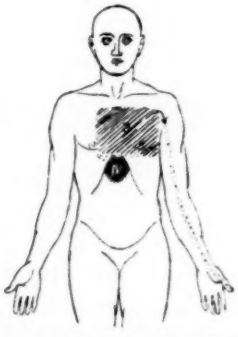
It is no adequate explanation to pass this pain off as being in every case nothing more than hepatic or other colic, though I admit that such an error in diagnosis does occur, and this possibility must be carefully considered. In one most typical case of epigastric angina, in which an autopsy was made, the stomach, duodenum, and gall-bladder were found free from any disease. It should be remembered that even when pain in the epigastrium is the dominant feature of the anginal attack, there are often additional symptoms, such as cramp-like and other sensations in

FIG. 4.



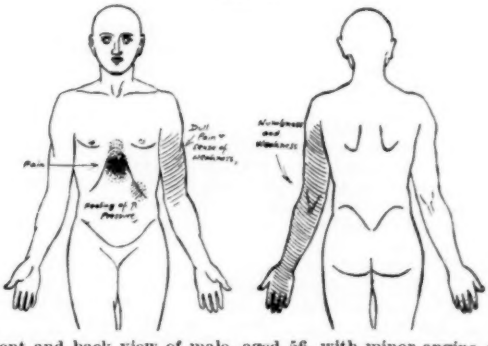
Male aged 64.

FIG. 5.



Male aged 52. Area of pain (2) not shown, being on the back.

FIG. 6.



Front and back view of male, aged 56, with minor angina and no severe pain, who died in a first attack of major angina.

areas indicating the cardiac origin of the epigastric pain, which in doubtful cases would help to clinch the diagnosis.

The associated phenomena may only appear when the effort inducing pain is continued in spite of the warning initial distress, and as the patient improves under treatment physical effort may fail to do more than provoke the primary epigastric ache.

A few examples may be quoted :—

A male, aged 64 (Fig. 4), with a systolic blood pressure of 200 mm. Hg and diastolic 100 mm. Hg, who experienced a dull aching pain in the epigastrium whenever he walked 50 or more yards, followed by pain between the shoulder blades, principally to the left of the spine. Simultaneously he felt an aching and numbness down the outer side of the left arm with occasionally an aching in the neck on each side of the larynx and trachea.

A male, aged 52 (Fig. 5), in whom walking brought on severe pain in the epigastrium at (1) on the figure. He experienced a sensation of being constricted in that area. This pain passed through to the back about the level of the angle of the scapula and was felt there as a broad horizontal band. It then spread over the front of the chest—the area indicated by (3)—and a cramping pain passed down the left arm in a narrow strip to the thumb. An attack lasted 3–15 minutes, and caused him to break out into a cold sweat. Under treatment the attacks became much less frequent and markedly less severe with great diminution in the area involved. The pain became focused in the epigastrium. The acute pain in the chest and the cramp-like feeling down the arm were no longer induced by effort. He died 16 months after coming under observation.

The description given by patients of their epigastric sensations varies considerably. It has been described as a "pain and tightness, with a gripping sensation," which disappears on "easing off." "An awful pain, induced by hurry, worry, or excitement." Another

man whose pain was in the xiphisternal area and an inch or two below: "Pain, tight and very severe, attended by apprehension, with numbness in the arms and once or twice accompanied by vomiting." Another said: "An acute feeling of indigestion becoming something damnable."

The following case combined several features of interest in prognosis.

A male, aged 56 (Fig. 6), complained of pain in the pit of the stomach when he walked. This pain, which was not severe, passed up a few inches behind the lower third of the sternum and simultaneously he experienced a sensation of numbness and weakness in the left arm. During an attack he was conscious of a difficulty in breathing, but there was no increased frequency in respiratory movements. He was a big hefty man weighing over 15 stone. The blood pressure was within normal limits, and there was no evidence of valvular disease, though the heart was moderately enlarged. Deep cardiac dullness 5 inches to the left of mid-line, and the peripheral vessels definitely sclerosed. His symptoms dated from an attack of influenza some nine months previously. The pain was never agonising, nor was there any fear of impending death. He had noticed that the attacks became more and more easily induced. The E.C.G. showed the typical diphasic complex of branch bundle lesion. Here was a man who had never had any severe or devastating pain, and in whom the chief site and area first to be attacked was the epigastrium. The pathological lesion was progressing and there was an ominous abnormality in the E.C.G. He had a month in bed with apparent benefit. The attacks became fewer in number and less easily induced. However, seven weeks from the date of his first visit he died in a severe attack of major angina, which lasted an hour, and which came on while he was lying placidly in bed.

ERRATIC OR ECCENTRIC ANGINAS.

The erratic or eccentric anginas may take some peculiar forms. In each, however, the symptoms are associated with effort and tend to diminish on cessation of the exciting cause. Sometimes the first and possibly the only discomfort is felt in the face, neck, or wrist.

A woman of 52, with systolic blood pressure of 190 mm. Hg, had as a first indication a feeling of tightness in cheeks and mouth as if acutely engorged. This extended from under the eyes down to the jaws. These sensations might be the only responses to effort, but if she persisted, then followed a choking sensation in the jaws and lower neck, culminating in typical constriction around the chest, and finally a fully developed major angina.

In other patients a fullness and sensation of bursting in the eyeballs is the first response to physical strain. The pain may begin in the back between the shoulders, and, as in a man of 57, pass across the axilla round to the right nipple area, and extend down the right arm as far as the elbow. This man, after many attacks similar to the above, died in a severe seizure seven months after coming under observation.

When the pain appears to evade the sternal area and is focused in one or other shoulder and upper arm, possibly in the elbow or wrist, it is not uncommon to find that the patient has been under treatment for neuritis or muscular rheumatism. Careful cross-examination usually elicits a straightforward statement that these scattered pains bear a definite relationship to physical effort, and sometimes a history of one or more attacks of frank angina can be obtained.

As further examples of what one might call minor angina I will refer to two cases, in both of which the symptoms complained of were slight, but death ensued during a full-blown attack.

A man of 40 complained of a feeling of pressure and weight over his heart which he described as tension, and with this there was a sensation of weight in the left wrist which caused the arm to feel useless. These indications were first noticed in February, 1921. I saw him in November of the same year. Excitement or effort induced the symptoms. There was also a history of two syncopal attacks. He was a most irritable and highly-strung man, apparently organically sound. Three or four years ago he had to cease work owing to a nervous breakdown. His blood pressure was normal. The heart was not enlarged and the heart sounds were normal with the exception of slight accentuation of the aortic second. He had just returned from a long business trip in Europe and was alert, aggressive, and most irritable. I admit I was unduly impressed by his nervous temperament, and consequently did not take a sufficiently grave view of the outlook. Within seven days he was seized by the first and only attack of typical major angina, and died.

The second patient was a man of 75, who for the last eight years had suffered from attacks characterised by a feeling of tightness behind the sternum and a sensation of discomfort, sometimes becoming *almost* a pain, which tended to spread to the left shoulder and down to the elbow. Walking up a hill or against a wind would induce this discomfort. Latterly the pain had been more easily excited, and on one or two occasions within the last six months had occurred while the patient was in bed—always an ominous sign. When the pain was present his breathing was quite easy, and there was no element of apprehension. Physical examination gave a blood pressure of 160 mm. Hg systolic, and 80 mm. Hg diastolic, the size of the heart was within normal limits, and there was no variation in the sounds; rate of the heart 80 per minute. Apparently a healthy man with the exception of this discomfort—a discomfort which was clearly that of minor angina. It was only in the last 12 months that the symptoms had in any way forced themselves upon his notice, though, being an extremely careful man, he had sought advice with regard to them eight or nine years ago. In the end he was seized with major angina, which lasted off and on all through one day, ending fatally.

The following history of four brothers is worth recording as an excellent example of the familial liability and its importance, while it emphasises some of the points we have been discussing. The father died at 63—cause unknown. The mother died at 62 from a stroke. She had suffered from an initial stroke three years previous to her death. I have notes of the four brothers, three of whom I have seen.

In November, 1919, I saw J., the first, aged 60½. He complained of pain, epigastric in site, brought on by walking. Five years earlier, when this pain first began, he was treated for indigestion. Latterly the pain had radiated upwards from the epigastrium into the jaws and throat, and to a point just inside the left elbow. This last pain sometimes occurred independently of the thoracic disturbance. Systolic blood pressure 160 mm. Hg, with pulsus alternans—indicating a grave prognosis. He died suddenly in an attack of angina in December, 1921.

The second brother, A., aged 56, in February, 1920, complained of "tightness on breathing," especially after walking, and a sensation of a "swollen lump" under the left nipple "too big for the chest." Also of a pain which he ascribed to "indigestion" situated about the angle of the left scapula independent of meals but induced by effort. Pain spread from this area into the left arm and down to the elbow. He gave a history of syphilitic infection in youth, and he had noticed that the present anginal symptoms dated from an attack of influenza in June, 1919. There was a moderate degree of arterio-sclerosis and the systolic blood pressure was 190 mm. Hg. Since Christmas last he has suffered from an aching smart in the left arm and middle fingers, and in April his symptoms became more severe for a while, especially the bursting sensation over the cardiac thrust. The rate of the heart was then 72 per minute, the systolic and diastolic pressures 200 and 110 mm. Hg.

A third brother, T., aged 62, consulted me in December, 1919. He was not conscious of any limitations; could dig, walk, and work, but he was apprehensive because he knew that his three brothers suffered from anginal symptoms. I could find nothing wrong. Heart normal, rate 88 per minute, systolic blood pressure 150 mm. Hg; but in view of the family history I cautioned him against excessive effort. Eleven months later, in November, 1920, he had two attacks of terrible angina. He is still alive and feels in excellent health, and he has had no severe attack since that time, but he has "reminders" if he hurries or is flurried. "A form of acute indigestion, if you understand me," was his description, the pain being substernal about the level of the nipples. It passes away at once if he stands still.

The fourth brother is 61 years old; he has not consulted me, but his doctor tells me that for five years he has suffered from anginal pain in the left arm and in the beginning of June last he had a severe attack.

This is a remarkable series. The earliest symptoms were of significance, also the sense of oppression caused by walking, the sensation of something too big for the chest, the pain about the angle of the scapula labelled indigestion, the epigastric pain brought on by effort, and in one of the four, the dramatic and fatal major attack preceded for seven years by varying manifestations of angina minor.

CONCLUSION.

I have attempted to review our position when faced by patients suffering from anginal pain, who ask to be told what the future holds for them. I have tried to discover where help and guidance are to be found in estimating the mortality, knowing only too well that there can be no certainty about the outlook. It is admittedly brighter, however, in proportion to the degree of sensitiveness of the central nervous system and becomes correspondingly graver when evidence is obtained indicating disease or degeneration of the myocardium. The electrocardiograph yields informative evidence of this nature, and it is found that the mortality in a series of patients is higher when certain well-defined deviations from the normal electrocardiogram are present. Again, prognosis is often at fault because the significance of some of the slight and earlier manifestations are misinterpreted. These minor anginas have certain characteristics which should enable them to be recognised for what they are—symptoms often unobtrusive, yet significant, and only yielding up their secret to careful cross-examination. They may be compared to a gesture, slight but ominous, and full of menace.

A Lecture
ON THE
TREATMENT OF DIABETES MELLITUS WITH INSULIN.

Delivered at the London Hospital on Oct. 15th, 1923.

BY O. LEYTON, M.D., D.SC., F.R.C.P. LOND.,
PHYSICIAN TO THE LONDON HOSPITAL.

IT is my intention in this lecture to relate my experience, conclusions, and advice in the treatment of diabetes mellitus with insulin, based upon observations in 100 cases. Up till now certain facts following the injection of insulin have been noted, but since the most skilled physiologists hesitate in interpreting them, I shall refrain from stepping where angels fear to tread.

Insulin injected into a normal animal diminishes the percentage of sugar in the blood and the quantity of glycogen in the tissues, without causing any corresponding acceleration in metabolism; it has been suggested that this is due to the katabolism of carbohydrate taking the preference over that of protein and fat. The injection of insulin into an animal deprived of its pancreas leads to a fall in the sugar in the blood, which is accompanied by a rise in the respiratory quotient, showing that carbohydrate is being oxidised. The addition of insulin to the blood perfusing a beating heart leads to an acceleration in the diminution of the sugar in the blood. The ultimate action of insulin has not been determined, but it has been suggested that it consists in turning the α and β glucose into γ glucose, and that γ glucose is the only form which the tissues can utilise. Before accepting this tempting theory the results of further observations must be examined.

THE MAXIMUM ADVANTAGE TO BE OBTAINED FROM INSULIN.

To sum up—we have in insulin a substance which when injected into a diabetic allows him to burn sugar. The question we have to consider to-day is, how can this substance be used to the greatest advantage of our patients? In order to answer that question I must remind you of the work done by Allen about ten years ago. His experiments consisted in removing the greater part of the pancreas and observing the conditions which allowed life to be prolonged. The conclusion he arrived at was that overwork of the pancreas led to deterioration of that gland. This was an epoch-making discovery, the importance of which has not been fully appreciated, although it forms the basis of the successful treatment of diabetes mellitus. Most tissues tend to hypertrophy when given extra work, but so far the only tissue which has been proved to degenerate by overwork is the β cells of the islands of Langerhans in the pancreas. Allen showed that overfeeding overworked these cells. Many suspect, and some assume, that dextrose in the blood stimulates the cells, and that an excess of dextrose would therefore overstimulate and lead to their destruction. Clinical evidence supports this view. Therefore, if an attempt is to be made to arrest the disease in a diabetic, insulin must be used in sufficient quantity to prevent at any time a hyperglycæmia which will overstimulate the β cells.

THE LIMITS OF NORMAL BLOOD-SUGAR.

The sugar in the blood rises after a meal; therefore we must attempt to keep the range of sugar in the blood between two arbitrary limits. The lower limit is easily defined as that which does not cause symptoms of hypoglycæmia; the actual percentage of sugar in the blood differs in different people: comparatively few have discomfort until it falls below 0·08 per cent., but I have met three cases in which the symptoms developed whilst the blood contained a substance which gave a reduction equal to 0·25 per cent. dextrose. The symptoms of hypoglycæmia are protean. One of the first to appear is apprehension—a vague fear that something untoward is going to happen. Although this is very pronounced in some (even in men who have proved to be brave and able to face death without flinching), others pass through to later stages without developing apprehension at all. A sense of tremulousness, followed by a coarse tremor, exaggerated when fine movements are attempted, and leading to a general shakiness, is very rarely escaped. An attempt to write brings out the characteristic of this symptom; often it is followed by profuse sweating and a sense of intense muscular weakness along with palpitation of the heart. These symptoms may pass off without the administration of carbohydrate or may be followed by dizziness, incoherent speech, convulsions, and finally coma. The ultimate symptom of intense hypoglycæmia is coma and any or all the intermediate symptoms may be omitted. We do not know why one man is wretched with 0·08 per cent. sugar in his blood whilst another develops no symptoms when his blood-sugar is 0·06 per cent. Our endeavour is to prevent the blood-sugar falling sufficiently to lead to symptoms.

The upper limit is arbitrary. In my own practice I fix it at 0·15 per cent. because I have observed that in the majority of cases when this percentage is not exceeded the destruction of the pancreas is arrested. It is arbitrary, because no doubt there are cases in which 0·16 per cent. or even 0·17 per cent. would prove to be harmless. In medicine we have to recognise the idiosyncrasy of every individual patient, but until we have studied that idiosyncrasy we must treat him along the lines we have found suitable for the average. Let me explain. I have seen at least six patients who have owned to drinking over a bottle and a half of spirits daily for many years. One individual asserted that in South Africa he took 22 tots daily, but since he had been in England 18 made him muzzy. Now of these six individuals, examination failed to show in four of them that alcohol had damaged the tissues. The late Sir George Humphry recorded details of a series of 12 octogenarians, two of whom were habitual drunkards. My counsel to the four individuals was:

> "I am glad to be able to tell you that I have failed to find any evidence of disease in you, but that does not mean that if you continue to take so much alcohol you will not develop disease—most people do. To be candid with you, I must tell you that some people are almost immune from alcohol, and habitual drunkards have reached the age of 80, but at present we have no means of distinguishing those that are immune from those who are damaged irreparably; therefore, I advise you to cut down alcohol to 6 oz. of spirits daily."

The simile is fairly apt. I have seen people with a blood-sugar of 0·6 per cent. who, so far as one can tell, have had this excessive hyperglycæmia for years and

enjoyed wonderful health. Until we have developed some method of distinguishing the vulnerability of the pancreas and other tissues to excess of dextrose, it may be wise to assume that 0·15 per cent. dextrose in the blood is detrimental.

Some authorities say that diabetes mellitus is often a progressive disease, even when a diet is arranged to keep the sugar in the blood normal. This is a loose statement, which conveys different meanings to different people. Those who take an occasional sample of blood from their patients four hours or so after a meal, and find it 0·12 per cent., have no right to state that the diet prescribed leads to a normal amount of sugar in the blood. Samples should be taken, at short intervals after meals, for two hours, depending upon the rate of absorption and the nature of the food given. When I state that the blood-sugar rises at no time above 0·15 per cent., I mean that samples of blood are taken after a meal containing one-third of the day's diet, and none rises above the limit.

Ideal Method of Control.

The ideal method of treatment necessitates the examination of samples of blood taken at various times of the day over a period of three weeks. In many cases this is not possible, and therefore it is my intention to describe two methods, one of which does not depend upon blood-sugar estimations. Perhaps the first question to arise is, Which cases of diabetes mellitus are suitable for treatment with insulin? In my opinion all cases of true diabetes mellitus are suitable, but it may not be expedient to treat all with insulin. Conditions of glycosuria with hyperglycæmia other than diabetes mellitus may be treated with insulin without detriment and occasionally with advantage. It will lead to the sugar being utilised which would otherwise be excreted, but the benefit accruing as far as we know in cases of hyperthyroidism, glycosuria due to a pituitary tumour, or excessive activity of the suprarenal glands is not comparable with that in true diabetes mellitus.

Naturally one must exclude cases of glycosuria due to some cause other than hyperglycæmia. None of these present symptoms of diabetes mellitus such as thirst, polyuria, or wasting. When the facility for examination of the sugar in the blood is available no difficulty is met in the majority of cases, although now and then a diminution in the efficiency of the pancreas is discovered so slight that only the inexperienced can make up his mind whether there is any real departure from the normal. In these cases I think that it is wise to let the patient lead a normal life for a few months and then reinvestigate. But time does not allow me to go into detail on this question.[1]

A Makeshift Control.

When it is not possible to arrange for estimation of the sugar in the blood some makeshift method has to be adopted such as the following. Assuming that sugar which ferments easily with yeast has been found in the urine of a patient in a comparatively small quantity, say about 1 per cent., the patient is then put on a restricted diet containing about 20 g. of carbohydrate, 50 g. protein, and 100 g. fat—i.e., ½ oz. bread, 16 oz. vegetables, 2 eggs, 4 oz. fish, 3 oz. meat, and 3 oz. butter. The patient is kept upon this diet for four or five days, and then the sugar in the urine is re-estimated. If the sugar in the urine persists in amount over 0·2 per cent. the probability of the case being one other than true diabetes mellitus is considerable. The patient should then be put on a diet rich in carbohydrates, containing perhaps 200 g. per diem, and after two or three days the sugar in the urine is estimated again. If it is under 2 per cent. one may conclude that the case is not suffering from diabetes mellitus, and therefore will be unsuitable for treatment with insulin. A makeshift method of this kind will only prove correct in 70 per cent. or 80 per cent. People not suffering with diabetes mellitus but with a threshold in the region of 0·16 per cent. will be diagnosed as suffering from true diabetes mellitus. I repeat that of course these cases in which there is great doubt do not present any of the symptoms or signs of true diabetes mellitus.

The next question is, in which cases is it expedient to give insulin? Amongst these, first come the recent cases. All cases of diabetes mellitus of recent onset should be given insulin in sufficient quantity to produce a hypoglycæmia for a period of several weeks, in order that the pancreas may be rested and its function restored. The second class consists of those who are unable to tolerate food sufficient to maintain the weight of the body containing no excess of adipose tissue. If a patient cannot take a diet representing 25 calories per kilogramme without the sugar in the blood rising above 0·15 per cent., insulin is essential for the continuation of his life as a useful member of society. The third class is the patients who can take more than 25 calories per kg., but who find the diet very irksome and their energy at a low ebb; these should be given insulin upon the strict understanding that they still have to keep to a rigid diet, but that the diet will be the less restricted the greater the amount of insulin given. Each patient has to balance the benefit derived from the insulin against the disadvantage of the expenditure on insulin plus the discomfort of the hypodermic injection. The fourth class consists of cases suffering from coma of diabetic origin.

DETAILS OF AUTHOR'S METHOD.

The details of the method I adopt are as follows: First an attempt is made to eliminate any source of infection. My observation recorded in 1917 has been confirmed by many; the glycopyretic function is depressed greatly by bacterial toxins. A diet is arranged containing 30 calories per kg. body-weight; for a patient weighing about 50 kg., 30 g. carbohydrate, 50 g. protein, and 140 g. fat. This would not be a safe procedure were insulin not available for administration if ketosis develop. Remembering that 58 per cent. of the protein is potentially carbohydrate, the ratio of fat to carbohydrate is 2·3 : 1. This has been asserted to be a safe ratio to prevent ketosis, but this assertion is true only if a proviso be added that all the carbohydrate in the diet is being utilised. We may take the absence of glycosuria as evidence that all the carbohydrate is being utilised and therefore if glycosuria cease it may be possible to treat the patient by diet alone. We may not assume that because the glycosuria ceases, the diet adopted is suitable; it is true that it is not wasteful in so far as the food is all being burnt, but if the diet lead to hyperglycæmia the pancreas will be overstimulated and in time further deterioration will occur in the majority of cases. Assuming that the glycosuria persists, the patient is given 5 units of insulin before breakfast and again before the evening meal. Two-fifths of the total carbohydrate in the day's diet is given at breakfast and another two-fifths at the evening meal. If pronounced glycosuria persist the dose of insulin is increased to 7½ units twice a day, and, if necessary, further increases are made until the glycosuria is controlled or the sugar in the blood is found to fall below 0·08 per cent. shortly before lunch or towards evening.

I should like to take this opportunity of emphasising the fact that hypoglycæmia is very harmless provided it be recognised early, and that sugar be given by the mouth or intravenously. I have grave doubts as to whether any case of diabetes mellitus can be treated adequately with insulin without symptoms of hypoglycæmia developing at some time.

If it be possible to examine the blood of the patient at comparatively short intervals the insulin is gradually increased or the time at which it is administered is altered until at no time does the sugar in the blood rise above 0·15 per cent. Occasionally it is found that in order to prevent hyperglycæmia an hour after meals a big dose of insulin must be given which subsequently causes hypoglycæmia. The administration of the insulin may be moved from half an hour to three-quarters or even an hour before the meal; if this does

[1] Brit. Med. Jour., 1923, i., April 28th, p. 707.

not remedy the hyperglycæmia and the dose which prevents hyperglycæmia one hour after a meal causes hypoglycæmia two or three hours later, a small amount of carbohydrate, such as a biscuit, must be given about three-quarters of an hour before the time that the hypoglycæmia usually occurs.

RESTORATION OF PANCREATIC FUNCTION.

For a time the patient should be kept just free from symptoms of hypoglycæmia; this rests the pancreas. In a large percentage of cases (provided the dose of insulin and diet be kept constant) after weeks or months hypoglycæmic attacks will become more and more frequent, and may be prevented either by diminishing the insulin or by increasing the diet. Of the 16 private cases which I began treating in May, nine have had to reduce the quantity of insulin taken—some to about 30 per cent. of that required in June; one has not reported, and of the others circumstances did not permit me to submit them to a period of hypoglycæmia. This is undoubted evidence that treatment with insulin may lead to partial restoration of the pancreas.

I should like to draw attention to other evidence leading to the same conclusion. In February, 1923, a young man who had developed thirst and polyuria a day or two previously was brought to me; insulin was not then available. The only way to rest the pancreas was by cutting down the diet and reducing the hyperglycæmia. The gradual restoration of the pancreas is illustrated by the two diagrams (Charts 1 and 2) showing the concentration of sugar at different dates following meals of identical composition. You will note that as time passed the glycopyretic power increased. Rest procured with insulin leads to the same result (Chart 3). A young woman suffering from severe diabetes was fasted for 18 hours, and then given intravenous injections of 10 per cent. solution of dextrose for three hours at the rate of 1 c.cm. per minute. Samples of blood were taken from the finger every 15 minutes. The curve obtained rose to 0·3 per cent. On repeating the observation a week later a similar curve was obtained. The patient was then submitted to treatment preventing hyperglycæmia for close upon five weeks, and the observation repeated. The blood-sugar did not rise above 0·2 per cent., demonstrating that the glycopyretic function had improved.

That the glycopyretic function may deteriorate if a hyperglycæmia be allowed to persist is proved by the hundreds of cases which have been treated by a restricted diet, and the diet gauged by the absence of glycosuria, with the result that the disease has made uninterrupted progress. An observation on a young patient in whom a hyperglycæmia persisted confirms this too (Chart 4). An identical method of introduction of sugar intravenously was adopted. The blood-sugar after an interval of a month's insufficient treatment rose to a higher level, showing a depression in the glycopyretic function.

I adopted so elaborate a method as a long-continued intravenous injection of sugar because: (1) the absorption of dextrose when given by the mouth varies not only in different people but in the same individual from time to time, and hence intravenous injection was essential; (2) the continuous injection is to eliminate the time factor. If one were to give a series of injections one might miss the apices of the curve unless samples of blood were taken every minute, and a slight difference in the times would destroy the value of comparing two curves.

It is early days to draw conclusions, and I am the last to wish to appear dogmatic, but all the evidence at my disposal seems to point in the same direction.

CHART 1.

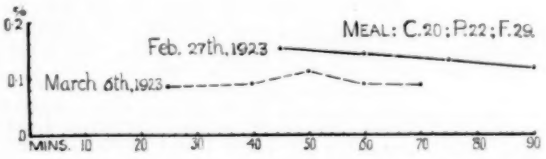
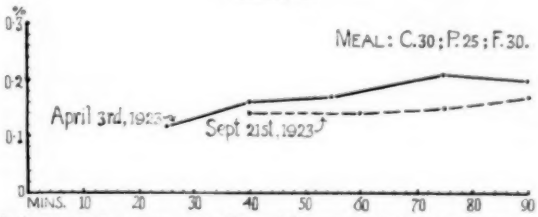


CHART 2.



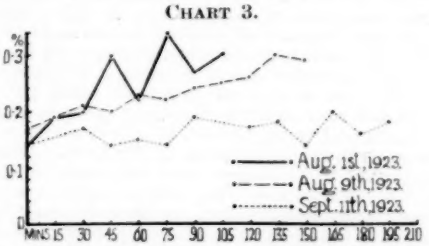
Charts illustrating gradual restoration of pancreas and increase of glycopyretic power, as evidenced by concentration of sugar at different dates following meals of identical composition.

TREATMENT WITHOUT BLOOD-SUGAR CONTROL.

If it be not possible to estimate the sugar in the blood, the same diet should be adopted as I have just described. Half an hour before the two main meals 5 units of insulin are given and continued for six days. If sugar persists in all the specimens of urine passed a gradual increase in the dose of insulin is made, about 1 unit a dose every third day, until most of the specimens of urine passed are free from glycosuria. When this is found to be the case the patient should be instructed in the symptoms of hypoglycæmia and told the remedy—namely, two lumps of sugar. The dose of insulin should then be still further increased very slowly until the patient develops definite signs of hypoglycæmia. If these occur four hours after the injection of the drug, it is probably wiser to give a biscuit three hours after the injection to ward off the hypoglycæmia rather than to reduce the dose of insulin.

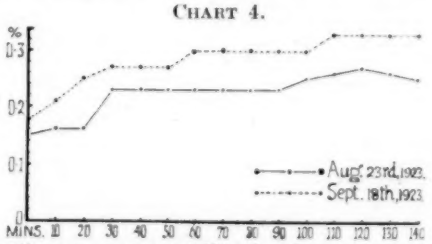
If the patient is free from glycosuria, and just misses hypoglycæmia by taking a small biscuit twice a day and persists in diet and dose unaltered, he will find that after a few weeks attacks of hypoglycæmia will reappear. Then a reduction in the dose of insulin should be begun and a gradual reduction be made until hypoglycæmia is just prevented. The absence of glycosuria is not to be taken as the method of deter-

CHART 3.



Curves showing improvement of glycopyretic function after rest procured with insulin.

CHART 4.



Observations on a young patient in whom a hyperglycæmia persisted, indicating that such persistence results in deterioration of glycopyretic function.

mining the right ratio between the diet and the dose of insulin. In the treatment of cases without the estimation of the sugar in the blood it must be remembered that diabetes mellitus differs in one way from many diseases. Often symptoms assist in treatment, and when the patient feels better he is really better. For instance, an inflammation of the stomach causes the patient to lose his appetite, and if he eats he vomits; the stomach insists on rest. If a man eat an irritating material it is passed through the intestine rapidly and leaves the body. If the kidneys are diseased, appetite fails and the amount of work thrown upon them is diminished. But when the pancreas fails the symptoms are hunger and thirst, and everything seems to be arranged to hasten the departure of the stricken from this earth. Often he feels better when on a generous diet and with a high blood-sugar than when on limited diet with a low blood-sugar. So that some of the most valuable data in the treatment of other complaints are absent in diabetes mellitus. Therefore the practitioner who undertakes the treatment of diabetics with insulin must recognise this and recast his ideas on the relation between the details of treatment and the sensations of the patient.

The simile between the treatment of diabetes with insulin and the treatment of myxœdema with thyroid is not very apt. The variation of the activity of the thyroid from time to time is, as far as we can tell, only a minute fraction in the variability of the activity of the pancreas. Insufficient thyroid will not lead to progress in the destruction of the thyroid, nor will sufficient thyroid given by the mouth arrest the destruction of the surviving thyroid; and anyway there is no difficulty in supplying sufficient thyroid by the mouth even when the destruction of the gland is complete. Cessation of administration by the mouth will not lead to death within two or three days. The whole process has much fewer risks, and although it needs care the need is not so great.

I do not for a moment wish to imply that diabetes mellitus should not be treated with insulin even by the busiest practitioner; but I state definitely that there is little hope of getting the best results from insulin without the expenditure of much labour. Assuming that the patient is best off on a definite diet with 25 units of insulin twice a day, that patient will run less risk if he is on the same diet with 20, 15, 10, or even 5 units of insulin twice a day than on none. The proverb that half a loaf is better than no bread undoubtedly applies to insulin.

Having arrived at the dose of insulin required to prevent hyperglycæmia in a patient upon a definite diet, the patient may elect to add to his diet. This will need a fresh series of observations, and therefore it is wise for the patient to decide early upon what diet he will be happy, and how much he can afford to spend upon insulin. One of these factors must be fixed and the other altered to suit.

Unexpected Causes of Hypoglycæmia.

I have already expressed the opinion that everyone who treats patients with insulin, and everyone who receives insulin, should be acquainted with the symptoms due to an excess, or rather, due to insufficient sugar in the blood. The causes for hypoglycæmia are occasionally unexpected; for instance, one patient developed convulsions four hours after an injection of insulin, although for many weeks he had had the same dose of insulin and the same amount of carbohydrate, protein, and fat for breakfast. The explanation consisted in mental perturbation, which had paralysed his stomach and delayed the absorption of the porridge and toast which formed part of the meal. This mental condition arose from the excitement of a heated argument. I have seen symptoms of hypoglycæmia develop due to an excessive dose of an aperient, which has hastened the food through the intestine and prevented absorption. Anything which prevents absorption will lead to hypoglycæmia; if the pancreas goes on strike and ceases to secrete a starch-splitting ferment, severe symptoms may develop. When this is found to occur, carbohydrate must be given as sugar if the administration of diastase does not meet the difficulty.

Treatment of Coma.

The treatment of coma due to ketosis still causes anxiety, and no routine treatment proves successful in all cases. First let me impress upon you that coma is not due to an excess of sugar in the blood, whilst too little sugar may lead to coma. I have found 0·9 per cent. of sugar in the blood of a patient without his suffering from any symptoms whatever, whilst 0·6 per cent. may be maintained for a long time without causing anything more than neuritis and endarteritis. Therefore, if there ever be any doubt whether the patient is suffering from coma, due to ketosis or hypoglycæmia, sugar should be injected intravenously; that can do no harm, whilst an injection of insulin may hasten the end.

In my opinion a 20 c.cm. syringe ready charged with a sterile aqueous solution of 10 per cent. dextrose should be by the bedside of every patient suffering from coma when treated with insulin, and if the patient relapse into coma after having made an apparent recovery, the contents of the syringe should be injected very slowly into a vein. If the coma be due to hypoglycæmia the result is miraculous; the patient regains consciousness within a minute. If the result be negative, a second syringeful may be given. The continuation of coma after the introduction of 4 g. of dextrose indicates that the coma is due to ketosis, cerebral hæmorrhage, uræmia, or some cause other than hypoglycæmia.

Treatment of Ketosis and Digestive Disturbances.

The details of treatment are—first be satisfied that the coma is due to ketosis; the onset with air-hunger and the smell of acetone in the breath is very suggestive. Diacetic acid is, as a rule, in the urine, but not invariably. Estimation of the percentage of carbon dioxide in the alveolar air may be used to confirm the diagnosis. Usually it is found that it is under 2·5 per cent.—i.e., less than half the normal. A fairly large dose of insulin, say 30 units, should be given either hypodermically or intravenously along with 30 g. of dextrose unless the sugar in the blood be estimated straight away; then, if it proves to be above 0·3 per cent., no dextrose need be given. After an interval of three to four hours a second dose of 30 units of insulin should be given along with an intravenous injection of 30 g. of dextrose. This may be continued if necessary until the patient becomes conscious. As soon as the patient is conscious give lemonade containing sugar, so that he may receive 3 g. of sugar for every unit of insulin which is injected. Do not remove the syringe containing dextrose solution from the bedside, and give orders that if coma redevelop, whoever is looking after the patient must attempt to give the contents of the syringe. If the vein be missed and the sugar runs into the subcutaneous tissue, less harm will result than if treatment is delayed until the doctor be fetched. He would arrive in time only to write the certificate of "death—hypoglycæmia."

We have had evidence that hypoglycæmia may develop ten hours or more after the last injection of insulin, even when plenty of carbohydrate has been given by the mouth during the interval. The excess of sugar will be removed by the kidneys, and the extra damage done to the pancreas by overstimulation for an extra day or two is comparatively unimportant. Administration of large quantities of sodium bicarbonate is of little value.

The problem arises as to what to do if the patient loses his appetite or suffers from vomiting. The cessation of insulin, which at first sight seems to be a reasonable treatment, I have seen lead to the development of a ketosis in a patient who had become rather fat, and therefore, perhaps, it is wise to diminish the insulin and give approximately 2 g. sugar as a rectal injection for every unit of insulin. If along with the

nausea and vomiting there be diarrhœa, then the insulin should be stopped. If ketosis develop intravenous injections of dextrose along with insulin are indicated.

As a rule the injection of insulin hypodermically is followed for a very short period by a sensation of stinging, which should be the only discomfort to arise. But in some people an inflammatory change which continues to increase for two or three days may be noted. In these cases it is wise to change the preparation of insulin. Often the antiseptic has some effect; different manufacturers use different antiseptics. Occasionally the inflammatory change is sufficiently severe to make the patient decide to cease the treatment. When this occurs, it is worth while noting the effect of intramuscular injection. The sites chosen should be those that are used for the injection of emetin—namely, into the erector spinæ muscles and the upper edge of the gluteus maximus.

THE PATHOGENESIS OF CEREBRAL DIPLEGIA.*

BY JAMES COLLIER, M.D., F.R.C.P. LOND.,
PHYSICIAN TO ST. GEORGE'S HOSPITAL; PHYSICIAN TO THE NATIONAL HOSPITAL.

Dr. Collier began his address with a tribute to Dr. Little, senior physician to the London Hospital and founder of the Royal Orthopædic Hospital, for the accuracy and clinical acumen of his original monograph describing the disease, which was written nearly 80 years ago. Some of those who had written upon the subject since had written less clearly and the student of the present day often had but a hazy idea of the pathology of Little's disease.

It was in THE LANCET in 1841 that Little first called attention to the Influence of Abnormal Parturition, Difficult Labour, Premature Birth, and Asphyxia Neonatorum, on the Mental and Physical Condition of the Child, especially in Relation to Deformities. Little first established the incontestable fact that diplegia is often associated with abnormalities of birth, at the same time stating "it is obvious that the majority of apparently stillborn children whose lives are saved by the attendant accoucheur, recover unharmed from that condition." He theorised the lesion as a widely spread fine lesion of the cerebral substance which could affect one part of the brain more than another. He showed that the less severe cases may progressively recover in the course of years, thereby proving that the slighter degrees of the lesion were reparable, and lastly, he excluded gross injuries to the brain and gross lesions generally from the ætiology of the disease which bears his name, and pointed out its common association with microcephaly. Strictly speaking, said Dr. Collier, the term "Little's disease" should be confined to diplegia which is associated with difficult birth. Actually it is used by the French school of every variety of cerebral diplegia present from the time of birth. Brissaud strove hard to confine it to the paraplegia forms occurring in premature children.

He continued: Following on the work of Erb and Charcot in 1875 a heated controversy was waged as to whether the primary spastic paraplegias of childhood were of spinal or of cerebral origin. The battle went against the supporters of the spinal theory, and in the end, owing to the excellent work of Wolters and of James Ross, of Manchester, it became universally accepted that the lesion was cerebral in site. During this controversy much pathological material was collected, with the result that the anatomical finding was generally accepted to be an atrophy and sclerosis of the convolutions, remarkably symmetrical, sometimes general, producing a walnut-kernel type of brain, sometimes local and incident upon any part or parts of the convexity, but most often affecting the Rolandic region and in the paraplegic forms most noticeable in the paracentral region, without any sign of vascular lesion nor of meningeal involvement. This was the "lobar atrophic sclerosis" of the French school. It was recognised as the end-result of some previous pathological process, no explanation of the nature of which was forthcoming. The important fact was also emphasised that the degree of the atrophic sclerosis present often did not correspond with the severity of the clinical picture; the paralysis might be severe and the atrophic sclerosis slight. The French authors agreed that the symptomatology is determined by other than the anatomical condition as yet brought to light. In other words, the unknown initial pathological process may at the time of death be much more extensive than the atrophic sclerosis which follows in its train. The correctness of this conclusion has been supported by all the subsequent evidence.

The Case for Meningeal Hæmorrhage as a Cause for Diplegia.—In 1885 Dr. Sarah McNutt wrote a thesis upon this subject important not only on account of the excellence of her clinical report and pathological examination, but chiefly on account of her false deduction which aided by the support of Sir William Gowers had the most amazing and inexplicable effect upon public opinion as to the pathology of diplegia. It introduced a glaring error which has remained unto this day and which though pathologically untenable seems to have defied all the attempts which writers during the past 25 years have made to eradicate it. Dr. McNutt described a case of double infantile spastic hemiplegia in a child born with instrumental labour, who from the time of birth showed signs of very typical general spastic diplegia and which died at the age of 2½ years.

It is obvious that the pathological process in the brain had begun long before birth, from the primitive arrangement of the convolutions and from the condition of the pyramidal tracts. It was a typical condition of lobar atrophic sclerosis. Had Dr. McNutt remained content with her description of this case no harm would have been done. But she proceeded to refer to another case which she had published and figured, of a child delivered by the breech with easy labour, who from the fourth day onwards had severe convulsions and on the twelfth day began to develop left hemiplegia which became complete. Death occurred on the twenty-second day. Upon necropsy the left hemisphere was found normal, but the right hemisphere was covered by a clot which had broken up the central convolutions, the optic thalamus, and the corpus striatum, and which was only separated from the lateral ventricle by the ependyma. Dr. McNutt then lays down that "it is legitimate to conclude that had this second child lived it would have developed by cicatrisation the shrinkage of the central convolutions and the convergence of the neighbouring gyri which was found in her first case and which characterise the most marked cases of diplegia." She then generalises meningeal hæmorrhage as the universal cause for infantile spastic states dating from the time of birth and associated with difficult labour. And this opinion expressed by her has gained the widest acceptance, so that one reads on every hand that meningeal hæmorrhage is a proved cause of diplegia. Yet her case of diplegia did not date from birth, for the anatomical findings showed that the disease must have been installed early in fœtal life. And her case of meningeal hæmorrhage was not the result of difficult labour for the birth was described as having been particularly easy. It was not a case of meningeal hæmorrhage, but a large intracerebral hæmorrhage which ploughed up everything from the basal ganglia to the cortex, ultimately bursting upon the surface. This cerebral hæmorrhage did not occur at the time of birth, but 12 days after birth when the signs of the hemiplegia first appeared.

* Abstracted from a Presidential Address delivered to the Neurological Section of the Royal Society of Medicine on Oct. 11th, 1923. The address appears in full in the current number of *Brain*.

This is the whole evidence upon which the case for meningeal hæmorrhage as a cause for diplegia rests. Yet it is meningeal hæmorrhage which still catches the eye in the foremost place among the proved factors of diplegia in most text-books of neurology. Strumpell in 1885 brought forward undoubtable cases of post-natal diplegia and infantile hemiplegia due to polio-encephalitis, and he argued this initial pathology for infantile spastic states in general. There does not appear to be much evidence in favour of fœtal encephalitis, but it seems difficult entirely to refute the possibility.

Brissaud's Theory of Premature Birth.

In 1894 Brissaud started an entirely new conception of the origin of diplegia or, rather, of certain forms of diplegia, prematurity of birth. It is obvious, however, that the immense majority of prematurely born children who survive, complete the development of their nervous systems in good time, and do not develop Little's disease. The major incidence of premature birth in connexion with paraplegic forms of diplegia, though incontestably true is not universal enough to help Brissaud's argument, and there is the much more subtle explanation that the dyscrasia which produced the pyramidal trouble also caused the premature birth.

Meanwhile the steady accumulation of pathological evidence called for a conception of primary neuronic degeneration as the initial morbid process in diplegia. Cotard as early as 1868 drew attention to the atrophy of the pyramidal cells out of all proportion to the shrinking of convolutions and sclerosis. Warda in 1895 found absence or degeneration of cortical neurones in a case of pre-natal diplegia that was certainly not secondary to any sclerosis or other gross lesion. Mya and Levi in 1896 found arrest of neuroblastic growth with degeneration of such neuroblasts as had developed their processes. Some of the most severe of the pre-natal cases were found to have no macroscopic lesion at all, but an almost universal degeneration of cortical cells, pointing to the advent of a rapid degenerative change shortly before birth. Cases of post-natal diplegia with insidious onset and clinically identical with the pre-natal cases, two of which I published in *Brain*, 1900, were recorded having their onset throughout childhood even as late as the twelfth year (notably a remarkable case published in *Brain* by Campbell with onset at the twelfth year), and in all these cases primary neuronic degeneration was the lesion found. Further the occurrence of optic atrophy in about one-sixth of all cases made any other explanation than a primary neuronic degeneration difficult. Dejerine always supported a neuronic pathology, and he very rightly contended for a clinical and pathological separation between the diplegias and the double hemiplegias.

Freud's Theory.

In 1897 came the monograph from Freud of Vienna, which still remains the most complete and authoritative exposition of this subject. He seems to have been the first to use the term cerebral diplegia as indicating a bilateral symmetrical defect of the brain, not the result of gross lesions, in contra-distinction to the hemiplegias and double hemiplegias which he considered always to be the result of gross lesions. He argued, and indeed I think that he proved that all diplegia dating from birth, and which had been attributed to abnormalities of birth, really had its pathological origin long before birth in intra-uterine life. He piled up statistics to show that every writer upon this subject had admitted that 40 per cent. of all cases of diplegia dating from birth were without any possible factor in connexion with birth. He analysed most carefully the circumstances attending the difficult birth in diplegia, and he sums up in these words: "Premature, precipitate and difficult birth are not causal factors in the production of diplegia; they are only associated symptoms of deeper-lying influences which have dominated the development of the fœtus or the organism of the mother; the only cerebral paralysis which results from difficult birth occurs when the brain is lacerated, and this takes the form of a monoplegia or hemiplegia or rarely of a double hemiplegia, and the anatomical result of this lesion is entirely different from the findings in the brains of diplegia."

Freud brought forward reasons for linking up pre-natally installed diplegia with the cases which come on insidiously during childhood, at any age up to that of puberty, arguing a cause for primary neuronic degeneration of the brain which might be incident at any period of fœtal life or during childhood, and he cites some remarkable cases in support of this theory. The one distinction which at first seems to separate the congenital cases from the post-natal cases is the course of the disease. Most of the pre-natal cases tend to improve, some of them to a remarkable extent. The post-natal cases never improve, but progress more or less rapidly to a fatal issue while some few become arrested. Yet progressive pre-natal cases are known, and I have seen several of them, and both pre-natal improving cases and rapidly progressive post-natal cases have occurred in children of the same mother. It seems to me that there is every reason, both clinical and pathological, to think that they belong to one class of disease, in which a primary degeneration of cerebral neurones may occur at any period during fœtal and during adolescent life.

The Ætiological Factors of Diplegia.

I now turn to a consideration of the ætiological factors of diplegia, long lists of which will be found in all modern descriptions, with the remark that 40 per cent. of all the cases are without even the most slender causal antecedents.

Hereditary and Familial Influences.—These are exceptionally rare in the common types of the disease. Yet there are recorded instances in which a mother, who was the subject of pre-natal diplegia, has given birth to a child afflicted with the same disease, an example of which was reported by Oppenheim. Familial incidence in which pre-natal and post-natal cases occurred indiscriminately have been many times recorded, as in the reports of Krafft-Ebing, Feer, Newmark, and Pelizain already referred to. Post-natal cases of a progressive type with a heavy familial incidence have been recorded by Souques, by Pibram, and by Hochhaus, while this ætiology is also very obvious in the type of amaurotic family idiocy and familial spastic paralysis. Diplegia may also in rare instances be coincident in the same families with other degenerative diseases of the nervous system, notably hereditary ataxy and myopathy, and certain facts showing this relation have been pointed out by Koenig, Strumpell, Bernhardt, Franz Schultze, and by myself. Consanguinity of parents has occurred not rarely.

Maternal Ill-health During Pregnancy.—This factor has been placed in the most important position by many writers, and I think without any justification, so rarely is it met with. There is, however, one important exception, and that is the presence of syphilis. Its incidence is admittedly rare. Naef and Feer examined 179 consecutive cases and were unable to prove the presence of syphilis in any one case. Dejerine insisted that syphilis was only a factor in that it caused premature birth. Yet I have seen diplegic children with the most obvious signs of congenital syphilis, and so have many others. The most conclusive evidence is that in pre-natal diplegias, a condition of the brain is sometimes found in which granular ependymitis, decortication, and the general resemblance to the brain of general paralysis is so striking as almost to prove the point. What is needed is an examination of the Wassermann reaction in a long series of cases.

Abnormalities of Birth.—I have already excluded these conditions as causal factors and placed them as common, but by no means constant, clinical associates of diplegia, indicative of something wrong with the fœtus, or of something wrong with those mysterious

relations between mother and offspring which determine a speedy delivery at full time. My authority is, the inconstancy of these so-called factors, the insuperable difficulty of referring one and the same pathological condition to such widely different causes as premature, precipitate, and prolonged birth and to asphyxia, the absence of any reasonable explanations or pathological findings to show how such events could produce the disease, the opinion of modern writers upon the subject, and the complete negation from the conditions of the brain found in every case.

Deductions from the Pathological Material.—It is remarkable that no lesions have been found in any part of the nervous system except in the cerebral hemispheres. Since the brain increases in size and develops during fœtal life by the evolution and development into complete neurones of the neuroblasts of which it is originally composed, the terms so frequently met with in the literature of this subject, "agenesia" and "arrested development," simply mean that some harmful process has affected the brain during its period of development. I have attempted to prove in my foregoing remarks that such arrest of development due to an affection of the brain during fœtal life, and not to any event connected with birth, is to be found in the brains of most cases of diplegia in which the symptoms are present from the time of birth. And I have further argued that the first signs of the affection are expressed in neuroblastic and neuronic death or degeneration.

If we liken the brain from the commencement of its development to a garden in early spring, well sown with seeds—the neuroblasts—some of which germinate early, some meantime and some late, those germinating early perhaps of a hardier sort, those germinating late perhaps of a more tender kind, imagine what might be the effect of a noxious influence—a sudden sharp frost, for example, upon this garden. According to its severity and the time when it arrived, it might, if it caught all the seeds in a condition of germination and growth, leave this garden lifeless. Or it might spare those seeds as yet ungerminated and those seedlings which had attained sufficient growth and robustness to resist its influence, and affect only certain kinds of the seedlings perhaps according to the state of their development, to their death and destruction. Or the seedlings affected by the frost may not be all killed; some or all of them may be simply "cut," and their leaves for the time withered, and these may be able in some degree to renew their growth and attain a maturity, in some cases perfect, in others stunted and imperfect, in all cases retarded. Lastly, this untoward weather may continue and crop after crop may perish in a progressive destruction. Some such process as I have put before you in this homely simile of the seedlings and the frost will, I submit, best serve to explain both the ætiology, the symptomatology, and the pathological findings in cerebral diplegia. This hypothesis will in a measure explain the restriction of the affection to the cerebrum, for this is the latest to develop, the highest, and perhaps for these reasons the most vulnerable, part of the nervous system. It will explain the tiny brain of severe microcephalic diplegia, with no differentiation between grey and white matter, and the most primitive type of convolutions, for here is widely spread neuroblastic death early in fœtal life, with no myelination because no processes have been developed from the neuroblasts. It will explain the strangely symmetrical and even strictly systemic affection of the cerebrum; the pyramidal region alone affected, the frontal and occipital regions alone affected, the parietal and frontal regions symmetrically involved, while the pyramidal and occipital regions escape, the corpora striata alone affected, as in the cases of choreic diplegia and congenital athetosis examined by Anton and Demange. It will explain those severe cases in which no signs of arrested development and little naked-eye change are found in the brain, for here the cerebrum has been hard hit at a time when its development is almost complete. It will explain the progressive improvement of the slighter cases in the possibility of regrowth in partially or temporarily damaged neurones, and also those cases, both pre- and post-natal, which show a progressive degenerative course.

This hypothesis is not altogether original with me, though its development in this form is original. It was suggested to me by the writings of Brissaud on premature birth as the one and only cause for paraplegic diplegia. Premature birth was Brissaud's frost which cut the pyramidal seedlings. On my hypothesis it was the frost which caused both the premature birth and the pyramidal deficiency simultaneously. The cause of the initial process is entirely mysterious, as is the case also in so many degenerative nervous diseases, as, for example, the hereditary ataxies, myopathies, and progressive muscular atrophy. It may be of the nature of a toxic or of a deprivation process, and is likely to be of more than one variety. If there is any difficulty in the conception of such a cause acting for a time only, and subsequently allowing of regeneration of nerve elements, it is exactly paralleled by the neuronic affection of polyneuritis. If the action of the cause for a time only producing degeneration, followed by final arrest, is hard to believe, this is the invariable habit of the cause of peroneal atrophy, where the degeneration commencing at a certain period of life, progresses for a time, and comes always to a final arrest within comparatively narrow limits. The picking out of the systems of cerebral neurones by this disease may conceivably be due to the time of incidence of the essential cause, or to its physiological selective capacity for certain of the elements only, as occurs so commonly with poisons, or to a combination of these two events. And, further, the phylogenetic age of the several cerebral systems may be a factor.

I would put these conditions forward in explanation of the universal affection and of the various local affections of the brain which are found in diplegia: (1) The severity of the cause, which may affect all the cerebral elements indiscriminately, giving rise anatomically, and if acting early to a small primitive type of brain, destitute of neurones, and causing clinically a condition of idiocy with diplegia and blindness; (2) the time of development at which the cause is active, which may determine which systems are affected and which are spared, in the local atrophies of the brain; (3) the physiological selective capacity of the cause to affect some systems and not others; (4) a cause which may be temporary in its action and which for this reason only picks out systems which are vulnerable at the moment; (5) a cause which may be continuous in its action and which results in a progressive diplegia.

If my reasoning be legitimate, then we must class together all the clinical results which primary neuronic degeneration and its sequel general or lobar atrophic sclerosis produce, from microcephaly with idiocy alone, through the wide range of pre-natal and post-natal diplegias to the simplest forms of paraplegic rigidity. The one anatomical lesion which has been found in all cases of diplegia since it was first pointed out by Cotard in 1868 is disappearance of the neurones of the brain or degeneration of these. I hold that this is a primary degeneration of the neurons, and that it is the essential and primary lesion in all cases of diplegia.

Arrest of development of the brain and of its outgoing paths is often found. This is the natural consequence of the foregoing neuronic lesion when this occurs during the earlier periods of development of the brain, and consequently it only occurs in pre-natal cases. Atrophic sclerosis of the brain is the natural consequence of the neuronic decay. It is more marked the earlier in life the neuronic decay occurs and the longer the patient has lived after the degeneration has been installed. In some varieties of diplegia, of which the Waren Tay-Sachs type is an example, no sclerosis follows the neuronic degeneration, and this is perhaps due to a peculiar nature in the cause. Gross lesions are rarely found.

I submit that the essential anatomical cause of diplegia is a primary neuronic degeneration due to factors which are at present entirely elusive, with the exception of rare cases in which syphilitic infection of the brain is certainly the provoking agent. This conception of the pathogenesis seems to me to be compatible with all the pathological evidence which has been recorded, and to best explain the symptomatology and clinical aspect of this class of diseases.

THE OPERATION FOR ELEPHANTIASIS SCROTI.

BY H. W. L. WALLER, M.B., CH.B., D.T.M. LIVERP.,
SURGEON TO THE GOVERNMENT HOSPITAL, ZANZIBAR, EAST AFRICA.

THIS operation, which I have done for the last six years in Zanzibar, is a modification and simplification of that described by Fauntleroy, of America. The cases have varied very considerably in size and weight, 10 lb. being the smallest, 30 to 40 lb. quite common, and 91 lb. the heaviest. Earnest endeavours were made at first to secure absolutely aseptic results, but the situation and very nature of the elephantoid tissue rendered this ideal very difficult to realise, proper preliminary cleansing of the gnarled and knotted interstices of the skin being almost impossible, so that with the exception of a few cases a certain amount of suppuration has occurred at any rate in the line of suture. Fortunately, however, this makes no material difference to the ultimate very satisfactory result, nor is the duration of the convalescence noticeably prolonged, nor to be compared with the time required for healing with the old-time methods of performing this operation.

Partly by choice, mostly of necessity, I work single-handed, and beyond the assistance of one or two native hospital boys in supporting the tumour at the requisite times, no one touches the operation area but myself. Indeed, the operation being performed in the lithotomy position, an assistant would have difficulty in gaining access to the area, and would therefore not be of much use. Fauntleroy does not use a clamp or tourniquet, and in deference to his great experience the method was given a thorough trial, but the great convenience, the saving of time and of hæmorrhage achieved by the use of a screw-clamp at the base of the tumour have led me to adopt this form of tourniquet in every case. There are one or two pitfalls to be guarded against: first and foremost, the possibility of a scrotal hernia, single or double. In these pachydermatous subjects it is not always easy to determine if a hernia of long standing be present or not. If such a complication be found a radical cure should be effected and allowed to heal thoroughly before the scrotal tumour is attacked. Undescended testicle is quoted, but is a complication I have never met, and one which might surely be safely left alone when discovered.

Technique.

The patient lies in the lithotomy position, and the scrotum, which is completely enveloped in an improvised bag of aseptic material, is permitted to hang down over the bottom edge of the table. A large towel is wrapped around the tumour and one or two assistants lift the mass and drag it down in a horizontal direction. The clamp, which is of the simple double-bar variety, with butterfly nuts at each extremity, so that it can be tightened or loosened at will during the operation, is then applied, and adjusted as far up on the scrotum as possible, and as close to the patient's trunk as can be managed. It is screwed up firmly, and the tumour gently released and allowed to resume its dependent position; the dressings are removed, towels are adjusted and clipped, and a final generous application of tinct. iodi. to the mass completes the toilet. For a big case it is well to have at least half a dozen knives ready, as the gristly tissue easily turns the edge. The flaps are mapped out as follows: Starting on the right side, about two inches from the middle line, and one inch from the junction of the scrotum and the abdominal wall, that is, just below the clamp, a horseshoe-shaped incision is commenced, extending vertically downwards over the scrotum until the level of the preputial opening is reached, when the incision curves horseshoe-wise to the left, passing below the preputial orifice. It is met by a similar incision which has started also two inches from the middle line, and an inch below the commencement of the scrotum on the left side, and the horseshoe is complete. A distance of 4 to 4½ in. should separate the vertical limbs of the incision, for it is this flap which is eventually to enwrap the penis.

A further incision is made at a right angle to the right vertical limb of the horseshoe, extending in a lateral direction to the posterior aspect of the tumour, where it is continued round to meet the left vertical limb; thus, with the exception of the space between the limbs of the horseshoe, this incision completely encircles the tumour. The level of it cannot be exactly laid down, for in settling it three points must receive due consideration: the first, that as far as possible only sound skin should be left above the incision (this is generally, but not always, practicable); the second, that from the sound skin left behind the new scrotum is to be fashioned, and that in the new scrotum room must be found for the probably much thickened and lengthened spermatic cords, and the testicles with their often abnormally dense coverings; and thirdly, that even under sound skin much lymphoid tissue may be found that can be, and must be removed, so that what may appear at first an insufficiently extensive flap, when denuded of its lymphoid and diseased tissue, will be found to provide, when sutured, a more capacious receptacle than was anticipated.

The next step is the raising of the horseshoe flap with its contained penis. Sometimes the organ will be found just beneath the flap, at others it must be sought for deep in the lymphoid tissue. The vertical limbs of the horseshoe should be deepened, and the mass grasped in the left hand and lifted gradually as it is released by the touches of the knife held in the right hand—the left all the while feeling for and protecting the penis. The latter being found, and the glans identified and protected by touch, at a distance about one inch distal to the glans a complete transverse incision is made through the flap, and the portion thus cut off is discarded. The glans can now be exposed, and will be found with about 1½ in. of prepuce to be in a very dirty condition. It is wrapped in gauze, expressed, and thoroughly cleaned with dabs soaked in tinct. iodi., which, of course, are not used again. It will now be found that about 4 in. of the horseshoe flap remain; this is denuded of all lymphoid tissue (do not denude it of its blood-supply as well) and then, with the penis, it is wrapped in gauze and thrown back on to the abdomen out of the way. We now search for the testicles and cords. These are easily found, and being dissected out free from the lymphoid tissue surrounding them, and the gubernacula binding them down to the scrotum, they are in their turn protected with gauze and thrown up on to the abdomen. There will usually be hydroceles on both sides. These are opened and tapped in the usual way. If large, the redundant tissue of the tunicæ vaginales is cut away and the edges sewn; if small, the tunicæ vaginales are slit up, turned inside out and sutured with catgut behind the testicles.

It is now that the large mass may be cut away and removed, after which a critical survey of the skin and flaps left behind takes place. The latter are cleaned and freed from diseased tissue as far as possible. The butterfly nuts of the clamp are gradually released and bleeding points picked up; it is remarkable how few of these will need attention; with even the most massive tumours not more than seven or eight vessels may require a catgut ligature, indeed, I have had cases of weight in which not a single ligature was used, torsion of the few bleeding vessels presenting being all that was necessary. The clamp being fully opened is removed. The silkworm-gut sutures are inserted:

it is well to begin at the most dependent portion of the scrotum, taking the median raphé as it leaves the perineum as the guide, and to continue to suture in that line until a pocket of sufficient size to hold the testicles and cords has been prepared. The penis and horseshoe flap are next sewn, the flap being wrapped around the penis and sutured in the line of the absent raphé; the cut edge of the prepuce being sutured to the cut edge of the skin now enveloping the penis after the manner of the ordinary circumcision. A few sutures and perhaps a little trimming are now required to close the flaps at the base of the penis and the upper portion of the scrotum. After a big case, or if much lymphoid tissue has unavoidably been left behind, it is sometimes advisable to leave a drainage-tube at the most dependent part for a couple of days. Oozing of thin blood-stained fluid may be expected after such cases, but it seldom lasts more than two days.

The patient can be got out of bed and encouraged to walk a few steps after two or three days. Retention is unknown. The operation is well borne, even by old or anæmic subjects. It is most satisfactory to the patient; I have not seen a recurrence; and potency is the rule afterwards so far as I have been able to ascertain. The mortality is nil.

Clinical and Laboratory Notes.

A CASE OF ALBUMINURIA OF PREGNANCY.

BY FRANK COOK, M.B., B.S., B.SC. LOND., F.R.C.S. ENG.,
OBSTETRIC AND GYNÆCOLOGICAL REGISTRAR, GUY'S HOSPITAL, BEIT MEMORIAL RESEARCH FELLOW;
AND
VERNON E. LLOYD, *M.C.*, M.B., B.S. LOND.,
CHIEF CLINICAL ASSISTANT TO THE GENITO-URINARY DEPARTMENT, GUY'S HOSPITAL.

IN view of the recent correspondence on this subject published in THE LANCET, it may be of some interest to record observations on a case which has lately come under our notice.

A primipara, aged 23, first presented herself for examination at the ante-natal clinic, Guy's Hospital, on Oct. 26th. Her last menstrual period terminated on March 31st; the height of the fundus confirmed this date. The fœtal head was freely movable above the pelvic brim (cephalic presentation); the position was left occipito-anterior. She complained of "morning sickness," but to this we attached no importance in the present connexion. On examination the urine was found to contain a considerable amount of protein, but no quantitative estimation was made at this time. Her systolic blood pressure was 120 mm.; she had no œdema, and no abnormal symptoms other than the sickness.

From Oct. 30th to Nov. 1st she was kept in bed on an ordinary diet. During this period no protein was found in the urine. On leaving her bed albuminuria subsequently reappeared, and on Nov. 10th ureteric catheterisation was performed at 11.30 A.M., after she had been up and about for two or three hours. The urine from the left kidney was more deeply pigmented than that from the right; the quantities obtained over a corresponding period were 8 c.cm. (right) and 6·5 c.cm. (left). The protein content, estimated by precipitation with trichloracetic acid in parallel samples of urine from either kidney and under similar conditions, was: *right, 1·2 per 1000; left, 14·0 per 1000.* A few hyaline casts were found in the urine from the left kidney; no pus cells or micro-organisms were found in either case.

On Nov. 16th and 17th an examination was made of urine which had been passed on rising, and after she had been up for two hours.

8.30 A.M.	Nov. 16th.	10.30 A.M.	8.30 A.M.	Nov. 17th.	10.30 A.M.
1012	Spec. grav.	1010	1014	Spec. grav.	1015
6·0	pH	6·6	6·2	pH	6·4
0·3	Protein	*1·8*	*0·5*	Protein	*2·0*

All these specimens contained a very few hyaline and granular casts; no other abnormal constituent was found.

At 11 A.M. on the 17th blood was withdrawn from a vein and estimations were made of the bicarbonate and inorganic phosphate content of the plasma. The bicarbonate was determined by the method of Van Slyke, Stillman, and Cullen.[1] A value of 0·0262 was found; this is expressed as molar concentration of $NaHCO_3$ and may be compared with the average value of 0·0268 obtained by Cook and Osman[2] in cases of normal pregnancy. The phosphate content was determined by Briggs's modification of the Bell-Doisy method[3]; a value of 3·5 mg. phosphorus per 100 c.cm. was found, which is well within the normal range indicated by de Wesselow.[4] So far as these factors are concerned there was, therefore, no evidence of further renal defect.

Although it is very unusual for a pronounced albuminuria of pregnancy to disappear completely during a short period of rest in bed, these data in general correspond with observations which we have made in certain other cases. At the same time we do not wish at present to draw any definite conclusions, and would merely indicate an apparently promising line of research which we consider to be based on reasonable premises.

DEATH FOLLOWING INJECTION OF DIPHTHERIA ANTITOXIN

AND DUE TO STATUS LYMPHATICUS.

BY DONALD MACINTYRE, *M.C.*, M.D. GLASG., D.P.H.,
MEDICAL SUPERINTENDENT, PLAISTOW HOSPITAL;
AND
D. W. MCKAY, M.B. TORONTO, D.P.H.,
SENIOR ASSISTANT MEDICAL OFFICER, PLAISTOW HOSPITAL.

THE number of cases recorded of sudden death following injection of diphtheria antitoxin is so small that the following case seems of interest.

A boy, aged 10, was admitted to Plaistow Hospital at 11 P.M. on August 26th suffering from a severe attack of diphtheria. According to his history, he was in the third day of the illness, which had commenced with the usual symptoms of headache, malaise, sore-throat, and vomiting. His tonsils were greatly enlarged, almost meeting in the mid-line, and were covered with thick adherent membrane which extended to the base of the uvula and on to the post-pharyngeal wall. There was slight discharge from the nose. The glands at the angles of the jaw were hard and swollen. The heart sounds were weakened, but examination showed no other impairment. The throat culture gave a positive result to diphtheria. In a later history, obtained from the parents, it was stated that the patient had always been a delicate, nervous child but had never suffered from any serious illness. He always had a slight persistent nasal discharge but no other respiratory disturbance. They also stated that he always appeared to have some difficulty in swallowing.

Effect of Injection.—At 11.25 P.M. 18,000 units of antitoxin were injected by direct puncture into the right median basilic vein and 10,000 units were given intramuscularly into the right thigh. The patient's condition remained unchanged until 12.25 A.M., when the usual reaction following an intravenous injection of serum began to develop. He started to shiver, and the shivering soon developed into a well-marked rigor. His colour was blanched, the pulse small and rapid; the temperature rose to 107·4° F., and he vomited once. During the rigor warmth was applied by means of additional blankets and hot-water bottles, the foot of the bed was raised, and stimulants and oxygen inhalation were administered. After 20 minutes the rigor subsided and his colour and pulse improved. He asked for a drink of water and wanted to sit up. His recovery from the reaction seemed quite satisfactory and he fell off to sleep.

Shortly after 1 A.M., however, the ward nurse was attracted by his stertorous and irregular breathing, and reported the condition. When examined he was found to be in a state of coma. The pupils were widely dilated and reacted only slightly to light. The breathing was stertorous, rapid, and irregular. Cyanosis was marked and the pulse could not be felt at the wrist. The heart was beating regularly but the sounds were weak. The temperature rose to 108·2°; a tepid sponge reduced it to 103·6°. After about 15 minutes the breathing became quieter, the colour and pulse improved, and the patient moved his limbs but did not regain consciousness. Within a short interval another paroxysm of dyspnœa came on, lasting about 10 minutes, and from this time these

[1] Van Slyke, D. D., Stillman, E., and Cullen, G. E.: Jour. Biol. Chem., xxxviii., 167, 1919.
[2] Cook, F., and Osman, A. A.: Guy's Hospital Reports, lxxiii., 233, 1923.
[3] Briggs, A. P.: Jour. Biol. Chem., liii., 13, 1922.
[4] De Wesselow, O. L. V.: Quarterly Journal of Medicine, July, 1923.

paroxysms recurred at intervals of about 20 minutes. The patient vomited several times and fæces were passed in bed. No sign of a serum rash was discovered on any part of his body.

Oxygen inhalation was given continuously and doses of adrenalin, camphor, and atropine were injected. A nasal feed containing sod. bicarb. was given at 3 A.M. and retained. The patient, however, showed little or no response to treatment and his condition steadily became worse. At 4 A.M. he had a slight tonic spasm and from this time convulsions became frequent and increasingly severe. He died in a convulsion at 5.15 A.M.

Post-mortem Findings.—The body was poorly nourished, subcutaneous fat being small in amount. There was a small curvature of the thoracic vertebræ to the left but no caries of the spine was present. When the chest cavity was opened the thymus gland was found enlarged and extending down over the pericardium. It was swollen and soft in consistence and weighed 35 g. The lymph glands of the tracheo-bronchial region were enlarged and were found in clusters about the size of small cherries. The mesenteric glands were even larger and more numerous. The superficial glands of the body were not hypertrophied. The lymphoid nodules at the base of the tongue were much enlarged. Peyer's patches were prominent and congested. The solitary lymph follicles of the small and large intestines were prominent and the mucous membrane of the cæcum and ascending colon showed marked congestion. The spleen was enlarged, weighing 170 g., and on section the Malpighian bodies stood out prominently. The heart was small, weighing 130 g. Its musculature was flabby and the right ventricle was dilated. No myocarditis was evident to the naked eye. The aorta was relatively narrow and thin-walled. The thyroid and suprarenal glands were normal in size and showed nothing unusual on section. The lungs were normal.

This patient received on admission the usual treatment for severe diphtheria. The reaction following the intravenous injection was very severe, but showed no unusual or alarming features; its course was similar to that observed by us in over a hundred other cases which had received intravenous serum during the past two years. When the patient became comatose the symptoms suggested a state of anaphylaxis, but after post-mortem examination we were satisfied that death was due to the condition of status lymphaticus

AN UNCOMMON CASE OF TYPHOID FEVER.

BY ROBERT SWYER, M.R.C.S. ENG., D.P.H.,
SENIOR ASSISTANT MEDICAL OFFICER, NORTH-WESTERN HOSPITAL, LONDON.

THE following are the details of a case of typhoid of an unusual type.

The patient, a nurse at a fever hospital, was 23 years of age. Her illness commenced on Feb. 6th, 1923, with headache and sore-throat. She reported sick on the 8th with a temperature of 102·5° F., pulse 112, respiration 24. Tongue lightly furred; fauces, heart, lungs, and abdomen appeared quite normal on examination. During the night she had a rigor, and on the 9th complained of severe pain in back of head. The condition remained the same until the 12th, when the patient vomited twice, the attacks being quite sudden and not preceded by nausea. At this time it was noted that the right pupil was smaller than the left, but both reacted to light and accommodation, and there was no alteration in vision, the condition disappearing after a few days. Knee-jerks and plantar reflexes were normal and Kernig's sign absent. On the 13th 5 c.cm. of blood was taken and cultures made, resulting in the discovery of the presence of *B. typhosus*. Temperature dropped to normal on the 14th and remained down except for a rise to 100° on the evening of the 16th and to 99·4° on the 28th.

The pain in the occipital region, which was the only symptom complained of during the whole illness, continued until the 16th, when it finally disappeared. A second sample of blood was taken on the 22nd; the serum agglutinated a stock culture of *B. typhosus* up to a dilution of 1 in 160 and the bacillus previously isolated from the patient's own blood up to 1 in 80. *B. typhosus* was also recovered from the fæces on the 23rd. At no time was the rash of typhoid fever present. The spleen was not enlarged and there were no intestinal symptoms.

The only time the patient had been in contact with typhoid fever during the six weeks previous to her illness was on the night of Feb. 4th, two days before the onset of symptoms. She made a complete recovery and was discharged on March 6th.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

WAR SECTION.

A MEETING of this section was held on Nov. 12th, with Air Commodore DAVID MUNRO, the President, in the chair.

Major A. T. FROST read a paper on the

Present-day Trend of Treatment of Gonorrhœa, with Special Reference to Cataphoretic Application of Colloidal Silver.

He said that since the discovery of the gonococcus many applications to the urethral mucosa had been used in the hope of killing the organisms. Later, when it was realised that no application could reach organisms buried in crypts, closed follicles, or beneath the surface epithelium, the routine procedure became lavage with weak antiseptics and, more recently, the use of a number of metal instruments, some of which were still of value in diagnosis or for destroying the local foci of disease which delayed cure. At the beginning of the present year the staff of the Military Hospital, Rochester-row, decided to try two fresh methods of attack on the gonococcus, (1) by the use of high antiseptics through the blood stream, and (2) by driving antiseptics into the deeper foci beneath the surface epithelium. The antiseptic employed in the first method was acriflavine (first employed by Lieut.-Colonel T. E. Harty at Dublin in 1921), 0·2 g. of which was administered intravenously in 200 c.cm. of normal saline solution. On the fifth and tenth days 0·3 g. of acriflavine in 300 c.cm. of saline was similarly administered. During the course the urine was kept alkaline. In a small series of cases treated thus at the Royal Herbert Hospital, Woolwich, in 1922, the average stay in hospital was roughly 60 days. As, however, the skin became yellow as soon as the drug entered the veins, and the drug was very rapidly eliminated, hypodermic and intramuscular injections were tried. These were, at first, not successful owing to the bulk of the injections and their acidity, which caused a local inflammatory reaction. After further experiments on rabbits it was found possible to make a more concentrated neutral solution (by adding 3·5 c.cm. of normal sodium bicarbonate solution to 1 g. of acriflavine and diluting to 20 c.cm. with distilled water), 2 to 7 c.cm. of which could be administered hypodermically without causing great pain. Three doses were given at five-day intervals. This form of treatment, which was still under trial, was found to give very encouraging results, especially in chronic gonorrhœa—one case had apparently been cured and remained free from recurrence for six months, by three injections, after having resisted other forms of treatment for the same period. The neutral solution employed must be freshly prepared every three days. Other dyes might be discovered, but acriflavine was the best as a bactericide of those which had been tried up to the present.

Electrical Methods Using Colloidal Silver.

The production by Major S. H. Long of a pure silver colloid, stable in distilled water, provided the starting point of an electrical method of treatment. The method first used was after the manner of ionisation, employing a silver catheter filled with colloid in the urethra attached to the positive pole; this method was abandoned owing to the pain and discomfort caused by the catheter in the acutely inflamed urethra. It was then decided to try the effect of using the colloidal silver cataphoretically—that is, applying electric pressure and not electric current through a column of colloidal silver within the urethra. Electro-chemically the silver colloid consisted of electro-negative particles which actually moved (as could be observed under the microscope) through the medium towards the positive pole when subjected

to an electrical pressure of not less than 60 volts. Cataphoresis aimed at driving these colloid particles into the urethral mucosa by electrical pressure, since the colloid was a non-conductor of electricity. The technique employed in practice consisted of cleansing the patient's urethra and bladder and then filling them with colloid silver by means of an ordinary irrigation apparatus embodying a short length of silver tubing in contact with the column of colloid. To this silver tube was attached the negative pole of a 100-volt direct current supply. The positive pole was attached to a wire gauze frame covered by washed lint moistened with saline, so shaped that when the patient sat upon it a prolongation grasped the shaft of the penis. With the voltage at zero, or "weak" on the sliding potentiometer resistance of the switchboard, the voltage is gradually increased until a pressure of 100 volts is registered, and less than one milliampère of current. It is hoped to control current by a "wireless" valve in circuit and prevent burns by an accidental short-circuit. The current was allowed to pass thus for 45 minutes on each of four successive days, and immediately before the treatment was begun a dose of 20 million gonococcal vaccine was administered hypodermically. If, after four days, the urethra was free from discharge, the usual tests for cure were applied and the patient evacuated from hospital if he passed these satisfactorily. If discharge persisted a second dose of vaccine was given and a Kohlmann's dilator passed to open up closed follicles; after this cure could generally be obtained by one or two further "cataphoretic" treatments. The tests of cure consisted of irrigating the urethra twice a day on two successive days with a 1 in 500 solution of magnesium chloride preceded by the injection of 100 or 200 million gonococcal vaccine and followed by the passage of a sound, urethroscopic examination, and the examination of the urine and of prostatic and vesicular secretion expressed by massage. The urine and secretions must be free from pus. As this treatment could deal only with a urethral infection, cases in which preliminary examination revealed disease in the prostate gland or vesicles received treatment with neutral acriflavine in addition to cataphoresis.

Major Frost then quoted the results obtained in 107 cases. On the average these cases received 9 days' electrical treatment and were in hospital 30 days, whereas the average stay in two venereal hospitals during 1922 was 69 days. This method of attack upon gonorrhœa was therefore very promising, and work now in progress to discover the most effective voltage was expected further to improve the results. Other types of colloids are being investigated.

Discussion.

Lieut.-Colonel P. H. HENDERSON was much impressed by the results. Was the treatment as applicable to women as to men?

Colonel CRAWFORD KENNEDY inquired what size colloid particles were the most efficient, and whether relapse was frequent or the incidence of epididymitis increased by the cataphoretic treatment.

Squadron-Leader F. N. SMART had tried ionic treatment for nine months, using soluble salts of silver, copper, and other metals, but had not been impressed by the results. He inquired whether Major Frost's good results were not due to the acriflavine rather than the electrical treatment.

Lieut.-General Sir WILLIAM LEISHMAN pointed out that the electrical method employed by Major Frost lent itself admirably to micro-experimental work, using the colloid and a culture of gonococcus in vitro, and observing the effect of electrical pressure and the consequent movement of the colloid particles upon the organisms. Other colloids might be tried in order to discover the most potent.

Lieut.-Colonel L. W. HARRISON had felt that since the discovery of salvarsan the battle against syphilis was being won, but no such advance had been made in the treatment of gonorrhœa. Major Frost's results were therefore all the more encouraging. Without wishing to detract from Major Frost's dramatic cure of chronic gonorrhœa with one injection of acriflavine, he yet could remember a similar cure of a chronic case by the mere passage of the urethroscope which had, he presumed, opened up a previously closed follicle. Were not the results of the colloid silver treatment in part due to the mere contact of the colloid with the urethra for 45 minutes a day? Local applications were of little value unless some means were employed of raising the bodily resistance, and of these a vaccine was the most effective. He noticed that Major Frost used only one dose of vaccine and inquired why this was not repeated.

Reply.

In reply, Major FROST said that there were no anatomical difficulties in applying the electrical method to women. The size of the colloid particles was of the order of 20 micro-microns and permitted them to pass through an "F" filter. The solution was concentrated by boiling. The killing of organisms might be ascribed to the bombardment by the colloid particles, and differed entirely from ionic medication. The particles are assumed to go deeper when subjected to electrical pressure, and the good results were not obtained in control cases which merely had the urethra filled with colloid without the current being turned on. Little microscopic work had been done, but other colloids were being experimented with. He used vaccines in order to increase the bodily resistance, and to open up closed follicles and thus render them more vulnerable to treatment.

The PRESIDENT congratulated Major Frost upon his paper and the results he had obtained. In the study of venereal diseases the medical officer in the Services, whose patients were a "controlled population," was able to work at an advantage when compared with civil practitioners, who consequently looked to the Services for advances in treatment.

SECTION OF OPHTHALMOLOGY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on NOV. 9th under the presidency of Mr. A. L. WHITEHEAD.

Pseudo-Retinitis Pigmentosa.

Mr. H. M. JOSEPH showed a woman, aged 63, who had some of the signs of retinitis pigmentosa but none of the symptoms. There was the characteristic pigmentation, and in places there were choroidal changes. The fields showed an annular scotoma. The visual acuity in each eye, corrected, was 6/9. Night blindness was not present, and there was no associated condition in any other members of the family.—Mr. MONTAGUE HINE showed an example of a similar condition in a man who seemed to have monocular retinitis pigmentosa. The left fundus had been passed at the Pensions Department as normal; the field of that eye was quite full, and in the periphery of the field there was no ring scotoma. In the right eye the field was contracted to the 5 degree circle; his vision was 6/60 and 6/36. The man had an injury over the frontal sinus in 1918, and the exhibitor asked as to the possibility of such a condition resulting from an injury.—Mr. CYRIL WALKER spoke of cases collected by Mr. Jonathan Hutchinson, in which the condition, or a similar one, seemed to be a late sequel of injury.—Mr. GRAY CLEGG did not regard Mr. Joseph's case as one of retinitis pigmentosa, and did not think Mr. Hine's case was likely to have been due to injury.—The PRESIDENT said the irregular migration of pigment was very common in direct injuries to the eye; also following "windage"—i.e., when a shell exploded near, without any direct material impact. But he had never seen any appearance corresponding to that in Mr. Hine's case.—Mr. AFFLECK GREEVES suggested that a condition as that of Mr. Hine's patient might be produced by an injury affecting the posterior arteries.—Mr. M. H. WHITING remarked on the difference of this case from those which showed

concussion changes in the retina. He knew of no one who had seen damage done to the retina by windage. Mr. Hine's patient, in his opinion, showed a condition indistinguishable from retinitis pigmentosa.

Tuberculous Conjunctivitis.

Mr. P. G. DOYNE showed a child with this condition, who came to hospital with a suppurating pre-auricular gland, which was opened. No other lesion had been found. A scraping of the lower lid showed no tubercle.—Mr. J. B. LAWFORD regarded the clinical appearances as very suggestive of tubercle, and advocated the X ray examination of the intra-thoracic glands.—The PRESIDENT said that in some cases of tuberculous choroiditis and diseases of the conjunctiva, probably the primary cause was in the thoracic or the mesenteric glands, when no disease was obvious in cervical or other glands.

Mr. BASIL LANG recalled Calmette's view that tubercle was acquired before the fifth year of life, remaining dormant in thoracic or abdominal glands until at some subsequent date malnutrition or disease brought it again into activity.

Dr. J. A. VALENTINE showed and described a pair of diving spectacles, and Mr. RAYNER BATTEN explained the mechanism of the hydrophthalmoscope, which measured the normal vision under water without the aid of diving glasses.

The Treatment of Interstitial Keratitis.

Mr. LINDSAY REA submitted a preliminary report on this subject. He commented on the widely differing views on the matter held in the profession. He now submitted conclusions which he had arrived at from a careful observation and study of 91 cases, without regarding anyone else's notes on them. Very few workers on this subject had given the vision of the eyes after their courses of treatment. He had done this in his own series. The fellow eye could be found to be affected after even so long an interval as ten years after the first eye was involved. In his series there were three males to every female. Only two of his cases were over 26 years of age. The temporary teeth of these patients did not show any peculiarity. He had had a large number of children under 6 years of age who had not yet erupted their permanent teeth, and in them he had never yet seen healthy temporary incisors, some were carious, and even the gums were unhealthy. Many of the children were deaf. Congenital syphilitic deafness was labyrinthine, and several authorities regarded it as a hopeless form, as the lining of the canals was thickened, and the vessels were affected by obliterative endarteritis. Porter said that deafness often came on immediately after the onset of the keratitis, or else as it was subsiding. Any treatment which promised to help these patients was well worthy of consideration. Some thought that interstitial keratitis was the last manifestation of syphilis. He quoted a series of cases in which thorough treatment with N.A.B. cleared away syphilitic ulcerations completely, and others in which the eye condition was much improved by the same compound. By persevering with the treatment he had secured good results in the most unpromising cases. His practice was to follow up the N.A.B. with mercury.

Mr. HUMPHREY NEAME said it was not common for syphilis to manifest itself after interstitial keratitis had cleared up. Of 39 cases on which he reported in 1921, 30 gave a positive Wassermann reaction. He did not agree that the majority of old cases of interstitial keratitis gave a negative W.R. In some cases there was a large phlyctenule at the limbus; in others there was a deep folding of Descemet's membrane, probably due to œdema of the substantia propria. In one case the onset of the interstitial keratitis occurred two or three weeks after a blow which caused a black eye, and a few weeks later still the other eye was involved. Sometimes an operation, as that for cataract extraction, started an attack, although the healing from the operation had been complete.—Mr. HARRISON BUTLER said the onset of interstitial keratitis after operation was not so frequent as he at one time supposed.—Dr. C. WORSTER-DROUGHT did not agree that interstitial keratitis was necessarily the last manifestation of syphilis. In a case, aged 23, which had the eye condition examined two years ago, the patient was now suffering from tabes dorsalis, of congenital origin. In congenital syphilitics the blood Wassermann was often negative, but they were very liable to show the colloidal gold curve of the luetic type. The latter was a very valuable indication, as it might be the only one in tabes.—Mr. C. B. GOULDEN said the results of treating interstitial keratitis with atropine were usually so good that it was difficult to say, in a particular case, whether general treatment brought about improvement in the eye condition, though admittedly it benefited the general condition of the patient. One case of advanced congenital syphilis had choroiditis. W.R. was positive, and extensive treatment by N.A.B., followed by mercury, was given. Subsequently the patient developed interstitial keratitis.—The PRESIDENT said that for some years past he had had all his cases of interstitial keratitis treated by galyl or similar preparations, and he was sure the present results were better than the former ones. He was sure cases were now seen earlier, and that probably had much to do with the better results. It was important to instil atropine, to prevent the formation of iritic adhesions, and to do all possible to raise the general health of the child; he was in the habit of giving iodide of iron and other tonics.—Mr. REA replied.

HARVEIAN SOCIETY.

A MEETING of this Society was held at the Town Hall, Paddington, W., on Nov. 15th, Sir CRISP ENGLISH in the chair.

Sir JOHN COLLIE opened a discussion on

PITFALLS OF MEDICO-LEGAL PRACTICE.

Many doctors, he said, were seldom called upon to give evidence, and most of them disliked the experience, but there were means of making the latter as little formidable as possible. He proposed to give a few hints on the examination of medico-legal cases. It must be remembered that mistakes would not condemn a doctor, but the latter's conduct afterwards might easily do so. Mistakes should be admitted; in any case they would be found out, and it was well to do the thing handsomely. The bedside manner should be dispensed with in the examination of medico-legal cases, which should be a strictly business transaction. The medical man should never prophesy unless he knew. Judgment, skill, foresight, and even experience were beads unstrung unless combined with infinite tact. In these cases the right place for an examination was the consulting-room, where the mental effect on the examinee was enormous. A solicitor's office was the last place in which to examine a case, and the Court of Appeal had decided that a solicitor was not entitled to insist on a doctor's appearance there. Garrulous patients should be encouraged, but it should be remembered that they were generally inaccurate. Taciturnity was a valuable asset. It should not be forgotten that some women do not always do the exact opposite of what was expected of them. Some resented every question, and some displayed very even tempers, because they were cross the whole time. Others would chatter about everything but the real question at issue.

Value of Painstaking Investigation.

To illustrate the value of thorough examination, he quoted a case in which a clerk claimed to have suffered concussion of the brain, when on duty, owing to the slipping of a mat which caused him to fall on a concrete floor. The patient was obviously ill, but there was no evidence of fracture. He (the speaker) was pressed by the medical attendant to attribute the injury to the accident, but he thought the patient had first become unconscious, and then fallen. He reported the case as not due to an accident

on duty. Six months afterwards the patient had another attack of unconsciousness, with no fall. The diagnosis was thrombosis of a vessel near one of the visual lobes. The patient recovered and was taken into the army, but later he had two fits of unconsciousness within ten days. Coma set in and he died. At the post-mortem examination in France it was revealed that one lateral sinus stopped short of the torcular Herophili, the dura mater being adherent to the brain, with no evidence of the supposed fracture. In another case he was asked to examine a woman who had a needle in her hand, lying between the metacarpal bones, and giving no trouble. He shook hands with the patient, and got a firm reciprocal and evidently painless grasp, indicating recovery. The case went to court, and after long consideration the judge gave a decision against the claim for disability to the hand. Within a fortnight of the decision she was admitted into a hospital for a huge open sore—malignant disease of the breast, which had gone undetected on account of the omission to examine more than the hand. Nothing, then, should be taken for granted; more mistakes were made through assuming things than through ignorance. For instance, a doctor told him he was asked to examine a man who had let his insurance policy drop, and wished to be re-certified as in good health. He stripped and was apparently healthy in all respects. Three months later the doctor who examined him was asked by the insurance company why he had passed as a first-class life a man with malignant disease of the rectum, and who at the time of the examination had a colotomy opening. The examinee had covered with his hand an artificial anus in his abdomen when being examined!

The Influence of Emotion.

The course of moral progress was spiral rather than straight. Motives were governed not by reason or intellect, but by instinct, passion, sentiment, or emotion, and we rarely knew of the existence of the deepest of these. The medical man should not tell the patient his opinion, but should reserve it for the solicitor. Insurance companies were not interested or impressed by technical terms. Above all, the medical man should take notes at the time of the examination and preserve them. He was frequently challenged on this head. Even notes dictated and typewritten immediately afterwards were sometimes disallowed. In difficult cases the writing of the report should be postponed for 24 hours, since perspective sometimes altered the view of the case. A medical man should never be ashamed of changing his mind, but he should not change it after sending in his report. Women's instinct in the judgment of character was admittedly marvellous; but intuitions were useless in a court of law. It was useless to say that a man was a malingerer unless one had incontrovertible evidence of the fact. Moral victories counted for nothing. In writing a report the emotion of sympathy should not be allowed to exercise any influence. A statement of claim was usually made under the influence of deep emotion.

The Law of Libel.

All men were afraid of the law of libel, but if a doctor were to do his duty he must express himself fully and fairly. Certain spoken and written words were absolutely privileged—the words of judge and witness, the proof of evidence, and the medical report. The statement that a person was untruthful, fraudulent, or a malingerer was not libellous, if made in the right place and honestly. He believed that anything might be written by hand in England, but if even dictated to a secretary it became public and libellous. In Scotland it was illegal to write the same statements, however privately. Of county court practice, he found it difficult to speak with moderation. One learned to get used to it, and tried to enjoy it. The medical man in the witness-box must never get angry. Counsel was sometimes intentionally provoking, but the answers should be courteously given. If the doctor believed the case to be one of malingering, he should simply say that he had thoroughly examined the claimant, that the latter complained of many things, and that of those things there were no physical signs—and should leave it at that. The irresolution with regard to recommencement of work, which many patients displayed, should be emphasised.

Functional Nerve Disease and Trauma.

Erichsen's spinal concussion was a psychical condition. In organic disease of the spine, nature's warning was pain, which was followed by rigidity. If rigidity was absent, pain was improbable. Pain in the back was usually largely psychic, the alleged incapacity depending on an exaggerated idea of injury. Nine-tenths of subjective symptoms were the result of auto-suggestion. The art of medico-legal practice lay in determining how much was due to the neurotic outlook. Neurasthenics were facile, and their thoughts ran along the line of least resistance. Heart-to-heart talks helped, teaching the patient to take an optimistic inventory of his own mental qualities. The attitude of the artisan out of work for long periods was an interesting psychological study. The man lost the work habit; the earliest possible return to work was the best course. Immediate counter-suggestion applied at the right moment and frequently repeated was necessary. One overpowering idea excluded another—e.g., engaged couples were not pre-eminent for judgment; obsession had nothing to do with reason or logic. The medical man should not forget that his influence with the neurasthenic dwindled from the first time of seeing him. Suggestion, however, could not be practised as a duty; it required enthusiasm, which would succeed where other means had failed.

The Malingerer.

The erroneous evidence sometimes given by medical men was due to defective observation and memory, or to a lively imagination. One should never be in a hurry to diagnose a malingerer, and the latter's friends should be examined separately. To paraphrase well-known words, "better doubt all, and be deceived."

Discussion.

MR. TRAVERS HUMPHREYS considered it very fortunate that members of the legal profession had been taught by Sir William Willcox to treat medical witnesses in the box not as partisans, but as experts. He had had little experience of county courts, but himself disliked them. He was prepared to accept the suggestion that about nine-tenths of the cases referred to by Sir John Collie were frauds. Cases in which he had heard medical men give evidence were chiefly criminal cases; there he had been delighted to observe that medical men were the only experts who could be entirely trusted to give truthful evidence. He confessed that lawyers were grateful to those members of the medical profession who practised as witnesses for their impartial evidence. The mistakes made by members of the Bar with regard to medical evidence were many. He hoped the day was far off when medical witnesses would come to be regarded as there to win or lose a case. He could understand the difficulties of medico-legal practice, and agreed that doctors should take careful notes at the time of examination. His own experience was that when medical men were held up to ridicule, it was on account of some little carelessness.

Sir WILLIAM WILLCOX said that his experience of medico-legal work was chiefly confined to the criminal courts. In the many cases, some of them hotly contested, in which he had given evidence, he had had every consideration from members of the Bar and from the whole court. As a medical witness he felt it important to encourage the feeling of mutual respect between the professions. There was pleasure in going into the witness-box to speak the truth with no feeling of anything pulling one way or the other, but he confessed to sometimes entertaining a hope that the accused would get off. The feeling of the far-reaching effects of statements made in the box caused one to

be very cautious. He disliked cases where the defendant was not represented by counsel, or when counsel had not had time to get the case up properly. He welcomed a very thorough cross-examination in criminal cases. He had been struck by the remarkable facility with which members of the Bar picked up the medical points of a case, and recalled several instances of this facility, though confessing that he did not know how long the knowledge thus digested remained in the system.

Mr. ERNEST CLARKE, speaking from the point of view of an ophthalmic witness, urged the importance of speaking the truth and refraining from abuse of the other side. He told how in a claim against the London Omnibus Company he held that a claimant who had been knocked off his bicycle and found himself to be blind in one eye had always been thus blind without knowing it. By a coincidence, the judge, who admitted this view and gave judgment accordingly, had himself been blind in one eye for many years without having discovered it.

Mr. T. SIMPSON PEDLER spoke sympathetically, from the lawyer's point of view, of the difficulty which arose for doctors in the delays encountered at the courts.

Mr. H. TANNER referred to a resolution passed many years ago by the British Medical Association advising that in cases where medical evidence was called on both sides, medical witnesses should meet and talk the case over beforehand. In compensation cases, he added, doctors sometimes found that they had difficulty in getting their fees. One colleague had told him that he had received no fees for the last five cases in which he had given evidence.

Sir JAMES DUNDAS-GRANT emphasised the importance of not "trying to be clever" in the witness-box, and spoke of the difficulties of certification of the insane and of the advantage of training in mental disease for students.

Other members also took part in the discussion.

Reply.

Sir JOHN COLLIE, replying, expressed himself as much gratified by the discussion. He held to his contention that the class of evidence and advocacy in the county courts was exasperating, and much inferior to that of the High Court. Cases of gross exaggeration were trumped up, and it was the medical man's duty to hold firmly to his opinion. In his extensive experience of working men in medico-legal cases about 8 per cent. were distinctly malingerers. A talk between medical witnesses on opposite sides was always pooh-poohed by counsel. He spoke of the new Workmen's Compensation Bill shortly to receive Royal Assent, which would do away with much perjury in county courts. Either party would be able to claim that the case should go before a medical referee, whose finding would be absolute. As far as medical facts were concerned, many cases would thereby be prevented from coming into court. The medical referee would, however, have to make known not only his decision, but also his reasons for coming to it. He (the speaker) had obtained the insertion of a clause to this effect as the Bill was being considered in Committee.

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.

A MEETING was held at the Elizabeth Garrett Anderson Hospital on Nov. 13th, Dr. M. CHADBURN, the President, being in the chair, when Dr. LAURA VEALE read a paper on

Spa Treatment at Harrogate.

She spoke of the stimulus given to hydrotherapy by the discovery of radium and the presence of radio-activity in water, and of the further impetus which was the outcome of the war. Hydrotherapy was now definitely established as a factor to be reckoned with in practical therapeutics. Dr. Veale discussed the special features of Harrogate as a spa—its geographical position on the highest table-land in England, its temperature, which was not so low as might be supposed, and its dry and sunny climate. Harrogate contained an exceptional number of mineral springs, 87 situated within a radius of two miles, and it was remarkable that each spring maintained an approximately constant composition while remaining chemically and therapeutically distinct. She enumerated the composition and special value of the various springs, explaining which were suitable for internal and which for external application, and deprecated the habit of sending patients to a spa without confiding them to the care of a resident doctor. Mineral waters of any potency could not safely be taken at any time and in any quantity, and th results of an attempt on the part of the patient to treat himself often ended disastrously. As to diet, in English spas the doctor had not the same advantages as on the continent of being able to superintend the patient's diet. The Harrogate Medical Society had again and again attempted to solve the problem. The difficulty was not so much with the hotel managers or with the patients, as with the patients' friends, who refused to be content with simple diet. Patients went to Harrogate suffering from many widely different complaints, Harrogate being supplied with springs containing both sulphur and iron water, and equipped with facilities for all sorts of baths—sulphur, peat, needle, heat, electric, paraffin wax, and whirlpool, among others—and also for special treatments, such as the Ems system for throat and nose affections, and the Plombières treatment for colitis.

Dr. M. E. H. MORRIS spoke of the

Waters of Bath.

She said that since Dr. Veale had dealt mainly with the clinical side of spa treatment she would refer briefly to the physical and physiological aspect of the subject. Important discoveries had been made in recent years as to the composition of the waters of Bath by the late Sir William Ramsay; and at the present time research work was being carried on at the Mineral Water Hospital, which should result in increasing our knowledge of the physiological action of the waters. A municipal laboratory had also been established in connexion with the Royal United Hospital, where pathological specimens were examined for the medical practitioners in Bath and the surrounding districts. The Bath water was always classified as a simple thermal water until 12 volumes of helium in 10,000 volumes of the gases escaping from the King's Well were found by Lord Rayleigh. In 1903 Ramsay, working with Soddy, found that helium was one of the products of the change of radium, and in the same year Strutt discovered radium in the Bath waters. Experimenters were unanimous in holding that the effect of radio-activity was an increased activity of all the processes of nutrition and metabolism. There was increased oxidation, as shown by a rise in the percentage of all the urinary solids other than the chlorides. Also, there was multiplication of the red blood cells and increased activity of the digestive ferments. The growth of bacteria was found to be retarded, if not inhibited, by radium emanations. This was well shown at Bath by the marked success in the treatment of gonorrhœal arthritis. Also it was found that radium emanations stimulate the elimination of toxins, as shown by increased toxicity of the sweat. An exacerbation of symptoms was a common incident of spa treatment, and if the reaction was not severe it was usually welcomed as a sign of progress. Such reactions usually set in after a week or two of treatment, and were soon followed by a marked improvement. The conditions deriving most benefit from treatment at Bath were simple chronic arthritis, chronic muscular rheumatism, progressive polyarthritis, infantile arthritis, and gonorrhœal arthritis. Dr. Morris had had many patients suffering from subinvolution of the uterus and chronic pelvic inflammatory conditions who had derived great benefit from the vaginal douches; while the Plombières irrigations of the large bowel had cured many and relieved many other cases of colitis, constipation, and post-operative adhesions. Treatment at Bath

is contra-indicated for patients suffering from tuberculous conditions, also for those suffering from contracted granular kidneys. The baths had been much improved in the last ten years. Various different kinds of bath had been installed, and an entirely new electro- and physio-therapeutic department had been constructed.

The PRESIDENT asked for details as to how Plombières treatment was carried out at the spas.

In reply, Dr. VEALE said that Plombières treatment, as applied at Harrogate, consisted of an injection of 30 oz. of water at a temperature of 100° F., and at a pressure of 2 ft. Copious lavage was not considered beneficial.—Dr. MORRIS said that in Bath the Plombières treatment consisted of 20 to 40 oz. of water at 100° F., applied while the patient lay on the left side. The patient then turned on to the back and the right side, again to the left side, retaining the injection for a little while. Reports of the result were sent to the doctor by the attendant.

WEST KENT MEDICO-CHIRURGICAL SOCIETY

AT a meeting of this Society held on Nov. 9th Dr. HILDRED CARLILL gave an address on

Tabes Dorsalis,

from cases at the Miller Hospital, Greenwich. His remarks were based on the case-notes of 153 personally observed patients and were illustrated by a large number of photographs taken by him. The importance of examining the pupils of all patients was emphasised and the conditions other than syphilis in which the Argyll Robertson pupil might occur were mentioned. Dr. Carlill gave an account of the early symptoms exhibited by patients. After discussing the clinical and pathological examination, Dr. Carlill urged that the condition might often be diagnosed prior to abolition of tendon-jerks, and he pointed out that, whereas the tests in serum and cerebro-spinal fever were always positive at some period of the disease, they became negative not only in connexion with treatment in certain cases but also in process of time. Thus, it was not always possible to obtain pathological confirmation of a clinical diagnosis of tabes dorsalis, but it was always possible in general paralysis. Examples were given of the association of tabes dorsalis with other syphilitic conditions such as basal meningitis, focal vascular lesions, or gummata, and also with non-syphilitic diseases such as hysteria, lead palsy, alcoholic insanity, and epidemic encephalitis.

CARDIFF MEDICAL SOCIETY.

AT a meeting of this Society held on Nov. 13th Dr. W. PARRY MORGAN gave a demonstration of the Wassermann reaction and a flocculation test for syphilis. He showed how the antigen was prepared from the heart extract, and exhibited tubes showing flocculation occurring when this was added to syphilitic serum. He then showed the parts played by complement and hæmolytic serum in hæmolysis, and how this hæmolysis is used in the Wassermann reaction. Examples of serum giving strong positive, weak positive, and negative reactions were shown.

Dr. J. BEATTY read a paper on

Psoriasis.

As the disease was familiar he did not deal with its symptoms and course. He emphasised the extremely small size of the initial lesion, and the fact that the spots grew at different rates, and that new spots might occur while others were fading. Occasionally the lesion occurred at the site of wounds, or was superposed on other skin diseases where there was breach of surface; it persisted indefinitely, recurrence being the rule. The occurrence of psoriasis was related to ill-health, for the dictum that it was a disease of the healthy applied to about one-third only of the cases; further, it was not contagious, though very rare cases of apparent infection had occurred. He described the microscopical anatomy, as first distinguished clearly by Munro and elaborated by Haslund, showing that the primary lesion was a cell infiltration into the rete and accumulation beneath the corneous layer—a microscopic abscess. Later parakeratosis, or retention of nuclei, occurred here and there in the corneous layer with collections of shrunken leucocytes; acanthosis, or proliferation of the rete cells, was abundant, while in the corium there was widening of the vessels and accumulation of leucocytes round them. The pathology of psoriasis was unknown, investigators attributing it variously to a parasite, to a fault of metabolism, to some disturbance of the nervous system, or to one of the great systemic infections, tuberculosis or syphilis. Schamberg and his collaborators attempted to find a parasite, using complement-fixation methods and culture media of all varieties with and without the patient's serum, extract of the scales, &c., but were unable to isolate anything beyond the ordinary skin bacteria. Dark-ground illumination showed what appeared to be a bacillus, but Ketron later brought evidence to prove that this was a fibrin form. Inoculations on animals were equally unsuccessful. They also investigated the metabolism in psoriasis, using the amounts of nitrogen ingested and excreted as an index, and were able to prove that nitrogen retention occurred, but Tidy later showed that this occurred also in exfoliative dermatitis. It was now believed that this retention was due only indirectly to the disease, and depended on the desquamation. While the evidence for a parasitic origin was negative, there were no features which seemed to point to any other hypothesis which could not be equally well explained if the existence of a parasite were assumed. The microscopical anatomy and the spread of the spots by peripheral extension were strongly in favour of this, but it was necessary to predicate a predisposition—a suitable soil. Treatment could have only a temporary effect. Special diets did not appear to have any value. Locally, after removal of the scales, the tars, mercurials, and the chrysarobin group (including pyrogallol and resorcin) were the applications most used. Mercurials were the least effective and crysarobin most. Any application should be rubbed in. Chrysarobin was not an antiseptic tested against staphylococci, its action being that of a reducing agent, but its special value compared with other reducing agents depended (1) on its stability so that it was at full strength when applied, (2) on its ready oxidation by proteins and their derivatives, and (3) on the fact that sodium chrysophanate or other product of oxidation was quite innocuous. Sunlight, the electric arc, and X rays were all useful in special cases. The internal treatment was marked by the variety of the drugs used and the uncertainty of their action. These fell into six groups: (1) The arsenic group (including antimony); (2) the heavy metal group, mercury and manganese; (3) the iodides and thyroid; (4) carbolic acid, tar, and the volatile oils; (5) alkalies and salicylates; (6) vaccines and auto- and hetero-serums. Arsenic was the most reliable and usually successful in first attacks; it should be pushed to tolerance. Hypodermically or intravenously enesol seemed best, salvarsan being generally unsuccessful. Mercury and manganese were given hypodermically. The iodides were the next drugs to use if arsenic failed, thyroid being held in reserve. Salicylates had been given in large doses intravenously and salicin by the mouth. Vaccines, usually staphylococci, but often other germs, might be effective. Discussing the action of these drugs, the speaker pointed out that no physical or chemical relation between them could be discovered, and that they had to be administered in full doses. He believed that a pharmacological relation existed in that they were all tissue poisons. Even sera fell under that category, since symptoms resembling anaphylactic poisoning could be produced by first treating sera with physical agents. He strongly

advocated the view that the really active body was some product of protein metabolism, and stated he believed this was true also of the treatment of syphilis, where unrelated substances like arsenic, antimony, bismuth, mercury, and even iron might be effective. The ineffectiveness of arsenobenzol on spirochætes in vitro might be explained in this way. The treatment of both psoriasis and syphilis seemed really a chronic poisoning, and the cure only indirectly due to the drugs used.

Discussion.

Prof. A. W. SHEEN suggested that perhaps the cutaneous phenomena of psoriasis might be regarded as the local manifestation of some general disease comparable to the skin eruptions which occurred in systemic diseases like tubercle and syphilis. He also drew attention to the fact that psoriasis occasionally follows the distribution of a cutaneous nerve.—Mr. H. G. COOK discussed the seasonal variations of psoriasis. The disease was liable to exacerbations in the spring and autumn, the reason for this being obscure.—Dr. R. PRICHARD thought that heredity played a definite rôle in some cases, and cited instances. He described the successful treatment of a case by means of arsenic.—Dr. GORDON GREAVES suggested that psoriasis might perhaps be akin to conditions of anaphylaxis, such as asthma and hay fever.—Dr. C. W. SHEPHERD, discussing the condition of nitrogen hunger, asked whether it was due to the scaling or was a peculiarity of psoriasis.—Dr. H. A. HAIG inquired whether cases had been treated by Finsen light and whether X ray treatment had any value.—Dr. BEATTY replied.

NEWCASTLE-UPON-TYNE AND NORTHERN COUNTIES MEDICAL SOCIETY.

A MEETING of this Society was held in the Royal Victoria Infirmary, Newcastle-on-Tyne, on Nov. 1st. Dr. R. ESMOND MOYES, the President, was in the chair.

DR. A. F. BERNARD SHAW made a communication on the

Pathology of the Respiratory System in Influenza.

He referred to certain data regarding the disease which had emerged from historical study and observations made in the last pandemic. Certain of these data bore more or less directly on the remarkable series of changes found in the respiratory tract, and could be adduced as evidence of the possibility that influenza did not fall within the category of a bacterial disease. It had been shown that epidemics and pandemics of influenza had affected man since the fifteenth century and probably earlier. It had frequently been described as a "new disease." Its manifestations were extraordinarily protean. The phenomenal rapidity of spread was unlike a bacterial disease and, in spite of the enormous amount of work done recently, there was no definite proof of its bacterial origin. No one had succeeded in inoculating healthy men with the disease. Probably no other acute disease so greatly lowered the resistance of the body to infection by bacteria as influenza. In the fulminating cases of the disease there was an intense tracheo-bronchitis with an aplastic exudate diffused throughout both lungs, and necrosis of the epithelium at all levels of the bronchial tree. Later, localisation of the process occurred together with a leucocytic reaction. At this stage there might occur as complications acute bronchiectasis, abscess, and gangrene of the lung. In those cases which survived a few weeks there was found extensive organisation of the exudate leading to obliterative bronchiolitis, obliteration of alveoli, and eventually fibrosis of the lung and bronchiectasis. As a result of this marked tendency to organisation it could be said that there was no other acute pulmonary infection which led to such distortion of the lung and impairment of function as influenza. Attention was drawn to the remarkable capacity for epithelial regeneration in the bronchioles which followed influenza, and sometimes the appearances almost suggested a new growth. The only lesions comparable to influenza were those produced in the lungs of animals subjected to inhalation of certain gases. Lantern slides were shown illustrating the histological appearances of the lesions.

MR. R. J. WILLAN read a paper on

Perinephric Abscess.

He said that he would not include perinephric abscesses secondary to a tuberculous vertebra or to an acute appendicitis. He had collected 43 cases of perinephric abscess where the records were more or less complete. The anatomy of the fascia renalis was discussed, and emphasis laid on the fact that, below, the two layers of this fascia do not blend, but lose themselves in the loose areolar tissue of the iliac region, thus establishing a direct tract between the abdominal true pelvis and the perirenal area. Of the 43 cases the majority—namely, 26—occurred between the ages of 21 and 30, and the condition was commoner in males than in females. Twenty-four were right-sided abscess, while the suppuration occurred in 19 cases on the left side. In considering the results of his observations Mr. Willan went on to say: that the disease is commoner on the right side is thought to be due to the fact that the right kidney, with its surrounding perinephric fat, is lower down, and is therefore more liable to injury. Sometimes perinephric abscesses are due to outward extension of renal cortical abscess or infarct. Nine cases out of the 43 followed urinary sepsis, 8 followed trauma, 6 as a sequel to parturition, 3 to pneumonia, 2 to recent boils, 2 to enteric fever, 1 to sacculitis of the colon, 1 probably to gonorrhœa, while in 10 cases there was no stated cause. In 8 of the series—i.e., 18·6 per cent.—there was a definite history of an injury. My impression is that sudden tears and ruptures of the perirenal fat occur more often than is generally believed. *Staphylococcus pyogenes aureus* is the commonest organism found, then streptococcus, then *Bacillus coli communis;* rarer organisms found are *B. typhosus* and pneumococcus. There are two forms, primary and secondary. The primary form may follow injury, though more frequently it develops after an acute fever, tonsillitis, boils, &c. Secondary forms follow suppuration in adjacent organs, the infection travelling by direct extension or via the lymphatics. A feature of the complaint is in some cases the length of the incubation period. The onset is often insidious, and in the great majority of cases the onset symptom is a dull ache in the upper part of the ileocostal space—i.e., just beneath the last rib and lateral to the erector spinæ muscle. Occasionally the onset is acute, and then an onset rigor is often met with. Except in the acute variety, rigors are not common. Usually there is irregular fever which is often mistaken for typhoid. With regard to urinary symptoms, in 12 cases there were neither urinary symptoms nor pus in the urine; in 11 cases there were urinary symptoms together with pus in the urine; in six cases there were urinary symptoms without pus; in one case there was pus without any urinary symptoms. Frequency of micturition is the common complaint made, though four cases in the series had renal colic. The symptom of thigh flexion is common in this disease, and is due to the perinephritic inflammation spreading to the psoas muscle. With regard to treatment, an exploratory needle should not be inserted unless preparations are complete for immediate operation. Early drainage of the abscess is essential.

LIVERPOOL MEDICAL INSTITUTION.

A PATHOLOGICAL meeting of this Institution was held on Nov. 8th, Dr. HILL ABRAM, the President, in the chair. After the exhibition and discussion of specimens, Dr. J. JOHNSTONE, of the Fisheries

Laboratory at Liverpool University, gave a description of a number of cases of

Tumours Found in Marine Fishes,

mainly cod, skates and rays, turbot and halibut. A few of these tumours were identified as cutaneous papillomas, cystadenoma of the ovary, angioma, and myxo-fibroma. Some were simple capsulated fibromas. The majority, however, were sarcomata. These were found in all regions of the body, but always in the same tissues. They originated in the subdermal connective tissue and spread along the fibrous septa that cross the body and give attachment to the systemic muscles. They spread by very active infiltrative growth, penetrating between the muscle bundles, and even between the individual muscle fibres. The latter atrophied and died over large regions. The sarcomata began as fibrous growths and then became highly cellular. Many were typically melanotic. There was difficulty in accounting for the multiple growths (or metastases) observed, by transport of tumour cells in the blood vessels, and it was more likely that the lymph channels are involved. The tumours led to great emaciation and finally death of the fish. There seemed to be no evidence of the origin of these growths by local irritative agencies, nor could traumatic injuries be assigned as possible causes. No instance of an undoubted carcinomatous tumour was found, although these were recorded by Gaylord and Marsh in domesticated trout and salmon. Some interesting questions were suggested by a study of malignant tumours in truly wild fish, and there was much need for extensive collection and investigation of all such conditions.

The paper was discussed by Profs. J. M. BEATTIE and E. GLYNN, and by Drs. T. W. WADSWORTH and R. COOPE.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

AT the first meeting of the session, held on Nov. 7th, the officers for the new session were elected.

Sir ROBERT PHILIP, the retiring President, recalled incidents in the life of the Society during his tenure of office. The Society had worthily fulfilled one of the main ideals of its founders—namely, "the bringing together in friendly rivalry and social intercourse the various workers in this rich metropolitan field of medicine." Sir Robert Philip continued: "If it may truly be said that in no city in the world does the profession of medicine occupy a higher place among the sister professions and the occupations of men, it may certainly be added that, in no centre and at no time have the intimate relations between the various grades of practitioners of the sacred art been more mutually serviceable and pleasanter than just now in this city of ours. . . . I cannot help suggesting that the happy condition is in large part the reflection of ideals that stirred in the mind of our first President, Andrew Duncan." Sir Robert Philip spoke of the numerous societies and enterprises of which Duncan was the founder, including the Edinburgh Hospital for Mental Diseases and the Edinburgh Harveian Society. The address concluded with a tribute to the two secretaries, Dr. W. T. Ritchie and Mr. W. J. Stuart, for their faithful and efficient work. Sir Robert Philip then resigned the chair in favour of Sir David Wallace, the new President.

Sir DAVID WALLACE thanked the Society for the honour conferred upon him, and in moving a vote of thanks to Sir Robert Philip, paid tribute to his great organising ability, displayed more particularly in connexion with tuberculosis. The vote was seconded by Prof. WILLIAM RUSSELL, and cordially carried.

Mr. HENRY WADE delivered a communication on the

Clinical Significance of the Form and Capacity of the Renal Pelvis.

He began by describing briefly the technique he employed in the practice of pyelography, emphasising the importance of preliminary preparation of the patient, whereby he came to the theatre with kidneys functioning actively. In no case was a general anæsthetic employed, as the conscious coöperation of the patient was necessary to indicate by his sensations when the limit of safe distension of the renal pelvis had been reached. He confined the practice of pyelography to in-patients. His present practice was to use a 20 per cent. solution of sodium bromide with which he had obtained the most satisfactory results. He had previously used collargol and thorin solution. In injecting the fluid he employed a 20 c.cm. Record syringe with a very accurately fitting piston, the fluid, suitably warmed, being introduced very slowly, so that any slight increase in tension could be appreciated by the resistance felt and the injection stopped when the least discomfort in the loins was experienced by the patient. In cases where previous lavage had shown a marked increase in the renal pelvic capacity, the distension limit was not sought for, but a measured quantity of fluid used. With the aid of lantern slides the interpretation of results was discussed and demonstrated. Some photograph of casts of normal and diseased pelves, made in fusible metal according to Cathcart's method, were shown, and various congenital abnormalities were demonstrated in casts and pyelograms. Mr. Wade estimated the incidence of single functionating kidney as 1 in 120. In cases of horseshoe kidney a bilateral pyelogram was justifiable, the pyelogram being characteristic and showing especially the unusual appearance of certain of the lower calyces which pass medially. He mentioned that although the unilateral fused kidney was fortunately of infrequent incidence, the importance of its recognition was great from the operative standpoint, and, as in those cases where the ureters were normally implanted in the bladder, its recognition was otherwise impossible; he always employed X ray ureteral catheters and took photographs with these in situ. In describing hydronephrosis he referred to the frequency with which operation in such cases revealed the presence of an abnormal renal artery to the lower pole without any evidence of mobility or prolapse of the kidney ever having occurred. He gave demonstrations of the appearances seen in chronic pyelitis. In referring to renal tuberculosis he said that, although the exact diagnosis could frequently be made without its use, the pyelogram gave a characteristic appearance, showing the normal calyces of the uninvolved portion of the kidney and the outline of the cavity where destruction of the tissue had occurred. In regard to renal calculi, he reminded his audience of the value of X ray catheters. The advantage of subsequent pyelography was demonstrated by cases showing calculi that produced total obstruction and others that permitted the entrance of the injected fluid into a pelvis distended by intermittent backward pressure. The importance of the routine practice of pyelography in all cases of suspected renal neoplasm was emphasised as affording an early indication of the disease by the destruction of certain of the calyces and the thinning and elongation of others at the site of the growth.

In the subsequent discussion, Dr. CHALMERS WATSON, Sir HAROLD STILES, and Dr. W. A. ALEXANDER spoke, and Mr. WADE replied.

Prof. EDWIN BRAMWELL showed a case of Thomsen's disease, and Mr. JOHN STRUTHERS a case of endothelioma growing from the membranes and destroying the frontal bones.

DONATIONS AND BEQUESTS.—The District Infirmary, Ashton-under-Lyne, will receive £500 under the will of the late Mr. George Henry Cooper, of Greenfield (Yorks.).—After several bequests the late Mr. Charles Simon, Whalley Range, Manchester, left the remainder of his property to the Manchester and Salford Blind Aid Society.—The Lord Mayor of Leeds has forwarded a cheque of £1000 to the Chairman of the Board of the Leeds General Infirmary in connexion with the war memorial of the Leeds City Police. This sum has enabled the endowment of a bed in perpetuity in the infirmary.

Reviews and Notices of Books.

RELATIVITY.

A Systematic Treatment of Einstein's Theory. By J. RICE, M.A., Senior Lecturer in Physics at the University of Liverpool. London: Longmans, Green and Co. 1923. Pp. 397. 18s.

Relativity and Gravitation: An Elementary Treatise upon Einstein's Theory. By T. PERCY NUNN, M.A., D.Sc., Professor of Education in the University of London. London: University of London Press, Ltd. 1923. Pp. 162. 6s.

THESE two books prove that their subject has emerged from that phase of its history when its exponents were rather apt to brandish the weapon of relativity with such dazzling dexterity that they left the reader wondering more at the display of swordmanship than appreciating the sublety of Einstein's conception. All this in time is being corrected, and the two books are serious contributions to the subject from the student's point of view. They are, in fact, both written for the student, and we think it would not be a bad plan if students read the first 30 pages of Mr. Rice's book, and then turned to Prof. Nunn's for his four opening chapters. His subsequent choice we may no longer be concerned about, but he would by this means get about as much of the purely physical concept of the principle of relativity as is possible without settling down to rigid mathematical treatment. If he elects to do this he will get much help from either author; in the end he will probably get more from Mr. Rice, whose treatment of the subject is much fuller throughout. These books are valuable contributions to a subject that necessarily claims a big share in scientific thought.

Prof. Nunn says in his preface that his book should be well within the scope of anyone who has read mathematics up to, or nearly up to, the pass standard required for a B.Sc. degree. If it be true that the average candidate can pass lightly on to the geodesic law of motion and tensor-differentiation, we are quite willing to accept this statement as one further proof of the march of time.

JACKSONIAN ESSAY.

The Effects of Radium upon Living Tissues. With Special Reference to Its Use in the Treatment of Malignant Disease. By SIDNEY FORSDIKE, M.D., B.S. Lond., F.R.C.S. Eng., Surgeon to Out-patients, Hospital for Women, Soho-square. London: H. K. Lewis and Co., Ltd. 1923. Pp. 72. 5s.

IN this attractive essay the author combines a brief historical account of the effects which radium has upon living tissues with certain experimental and clinical results which he has himself obtained with this agent. The experimental results are those which followed the exposure of the ovaries of cats to various doses of radium radiation; the radium was enclosed in tubes, which allowed egress of practically only gamma rays, and by suitable operation was fixed near the ovary. It was left in position for selected intervals and subsequent microscopic examination of the organ revealed the main changes which had been set up. These are described in some detail and illustrated by some good micro-photographs. In common with other observers, the author finds the extraordinary degree to which the different tissues of the body react to the same dose of radiation. Unlike other authors, however, he does not distinguish between differential and selective action: they appear, in fact, to be used synonymously, for in this connexion we read "this differential action is shown more markedly in rapidly dividing and embryonic tissues, and it is upon this selective action that the clinical treatment of tumours is founded." The clinical results described are those obtained by the use of radium in the treatment of carcinoma uteri, cervix, vulva, vagina, and epitheliomata of the genital skin. In his conclusions upon the question of the efficacy of radium, the author expresses the opinion that in 80 to 85 per cent. of late cases the symptoms are relieved with the minimum amount of invalidism, and he raises the question: "Are we to continue to treat only inoperable cases?"

Included in the volume, though not part of the essay, there is a report on the treatment with radium of 45 cases of persistent uterine hæmorrhage in which the author claims an important rôle for radium, certain contra-indications, however, being noted.

HÆMORRHOIDS.

Their Ætiology, Prophylaxis, and Treatment by Means of Injections. By ARTHUR S. MORLEY, F.R.C.S. Eng., late Temporary Assistant Surgeon to St. Mark's Hospital for Cancer, Fistula, and Other Diseases of the Rectum. Oxford Medical Publications. London: Henry Frowde and Hodder and Stoughton. 1923. Pp. 120. 6s.

THIS handbook deals mainly with the injection treatment of hæmorrhoids. The author is a strong advocate for carbolic acid injection, and makes out a good case for his methods. He holds that all cases of hæmorrhoids can be successfully treated by injection, except those which are strangulated and gangrenous or complicated with fissure, and he lays proper stress on the great advantages of avoiding an anæsthetic and a period of lying up. Mr. Morley argues that injection does not produce thrombosis in the injected pile except as a rare occurrence, and this introduces questions which are not easy to answer. If coagulation in the dilated veins does not occur when carbolic acid is injected into them, what is the process of cure? Furthermore, in the absence of coagulation the dangers of absorption should be frequent instead of rare. The author criticises detailed operation statistics compiled from records at St. Mark's Hospital, and argues that the recurrence-rate after operation cannot be estimated by figures showing the percentage of the re-operated. Of course, the same may be true with regard to recurrences after injection. It would be salutary in many branches of surgery if individual results could be assessed—as they can be to a large extent at the Truss Society in the case of radical cure for hernia.

BLOOD GROUPING.

La Individualità del Sangue nella Biologia, nella Clinica e nella Medicina legale. By Prof. LEONE LATTES, Director of the Institute of Legal Medicine in the University of Modena. Casa Editrice Giuseppe Principato, Messina. Pp. 174. L.18.

THIS little book is an extensive compendium and historical survey of the greater part of the work that has been done in blood grouping and its clinical and legal applications. It, moreover, embodies some of the researches of Prof. Lattes on the practical application of the agglutination test in the specific and individual diagnosis of human blood, the biological demonstration of paternity, and individual diagnosis of blood stains. There is a very extensive bibliography containing about 300 names, which include those of W. M. Happ and S. C. Dyke who have worked at the same subject in this country. The earlier chapters deal with the spontaneous reactions of individuality, iso- and auto-agglutination, the individuality of the blood as an hereditary factor, and consider also an ethno-anthropological view. Much useful information is to be found on these matters gathered from almost every possible source. A long chapter is devoted to the clinical application of blood groups with regard to transfusion from the point of view of incompatibility between the blood transfused and the individuality of

the host. Another chapter treats of the medico-legal aspects of blood grouping and describes more in detail Prof. Lattes's technique for the examination of blood stains, devised with the object of eliminating pseudo-agglutination which is a source of error in individual diagnosis. We can recommend this book to those interested in this subject.

PULMONARY TUBERCULOSIS.

Die Lungenphthise. Ergebnisse vergleichender Röntgenologisch-Anatomischer Untersuchungen By Prof. S. GRÄFF and Prof. L. KÜPFERLE. Berlin: Julius Springer. 1923. With 221 illustrations, 10 photographic tables, 8 stereoscopic plates, and 3 coloured illustrations. Pp. 236. £2.

THIS work is published in two parts, the first including the text, the second being devoted exclusively to the numerous and excellent illustrations. One of the authors, Prof. Gräff, is professor of pathological anatomy in Heidelberg, and the other, Prof. Küpferle, is professor of internal medicine in Freiburg. The guiding principle of their combined work is to establish coöperation between the radiologist and physician on the one hand, and the morbid anatomist on the other. To put this principle into practice, they have together followed a number of cases from the hospital to the deadhouse, and most of their work is a detailed record of 52 such cases. The first part of this book is packed with clinical and pathological detail, and the second part is an instructive atlas showing side by side skiagrams and post-mortem dissections of one and the same case. Much labour has evidently been spent on this work, which should be useful for reference to persons or institutions to whom the expenditure of £2 is not an insuperable obstacle.

The Tuberculosis Worker. A Handbook of Methods and Programs for Tuberculosis Work. By PHILIP P. JACOBS, Ph.D., Publicity Director, National Tuberculosis Association. Baltimore, U.S.A.: Williams and Wilkins Co. 1923. Pp. 314. $3.50.

IN this most instructive book the author takes the reader behind the scenes and shows him every wheel and lever of the complicated machinery which has made the organisation of the tuberculosis campaign in the United States a model of its kind. For the sake of convenience the book is divided into two parts. The first deals with methods, the second with programmes. "Methods" are classified according as they are clinical or financial. There are also nursing and institutional methods, and it is perhaps inevitable that with this elaborate classification of subjects there should be a certain amount of overlapping. Much space is devoted to the organisation of publicity campaigns, and advice is given as to how editors *et hoc omne genus* are to be tactfully managed. It is also pointed out that from 20 to 40 million people in the United States do not regularly read the newspapers, and special provision must be made for propaganda in this class. Interesting hints are given on the organisation of motion pictures and other exhibits, and throughout the book the reader is given sometimes quaint, but always helpful, advice with regard to the psychology of his fellow-beings. The tuberculosis worker must be all things to all men, and however enthusiastic he may be, he is not likely to be highly efficient unless he has mastered his subject so completely that he has it at his finger-tips. Much has been written and spoken about coördinating tuberculosis work in this country; in the U.S.A. coördination in this field seems not only to be written and talked about, but to be an accomplished fact. This book has a message, not only to the whole-time tuberculosis officer, but to part-time workers, medical and lay, all of whom will find that tuberculosis machines, like clocks, must be properly lubricated and wound up periodically.

JOURNALS.

JOURNAL OF PHYSIOLOGY. Edited by J. N. LANGLEY, Sc.D., LL.D., F.R.S. Vol. LVIII., No. 1. 1923. 10s.—Physiology of Plain Muscle: (1) The Effect of Alteration of Hydrogen-ion Concentration on the Tone and Contractions of Plain Muscle, by C. Lovatt Evans and S. W. F. Underhill; (2) The Oxygen-Usage of Plain Muscle, and its Relation to Tonus, by C. Lovatt Evans.—On the Absorption of Insulin from the Stomach, by L. B. Winter. It is known that insulin is rapidly destroyed by pepsin and trypsin in vitro, and it is probably for this reason, rather than inability of insulin to pass the intestinal wall, that administration of pancreatic extracts by the mouth have been relatively ineffective. In accordance with the fact that alcohol is absorbed from the stomach and water is not, weak alcoholic solutions of insulin were introduced into the stomach of rabbits previously accustomed to the absorption of alcohol by gradually increasing doses on successive days, until 4 or 5 c.cm. of 95 per cent. alcohol, suitably diluted, could be absorbed without interfering symptoms occurring as a result of the alcohol. Blood-sugar determinations were made by Bang's method—the blood being obtained from the marginal vein of the ear. It was found that insulin in weak alcoholic solution and administered per os causes the blood-sugar to fall to low level, and this effect was not observed when similar amounts of insulin were dissolved in normal saline, or in N/20 NaOH.—Does Insulin Influence the Glycogenic Functions of the Perfused Liver of the Turtle? by E. C. Noble and J. J. R. Macleod. Turtle liver is chosen for the study of glycogen formation because its main blood-supply is carried to each of its two lobes by separate branches of the umbilical vein. The remarkable effect which insulin has in causing glycogen to be deposited in the liver of completely diabetic (depancreatised) dogs fed richly on carbohydrates would seem at first sight to indicate that a part at least of the sugar which disappears from the blood of normal animals following insulin is due to glycogen formation. But such a conclusion is not justified in the absence of direct evidence that glycogen is formed in the normal animal under these conditions. It was found that varying concentrations of insulin in the perfusate did not influence the rate of sugar output from the excised liver, neither immediately nor after a period of 90 minutes. The conclusion arrived at is that the rate of post-mortem glycogenolysis in excised turtle liver is not influenced by the presence of varying concentrations of insulin at ranges of pH between 7·0 and 7·4.—The Rate of Recovery of Nerves in Asphyxia, by Sybil Cooper. Experiments carried out on the sciatic-gastrocnemius preparations of frogs show that the nerve does not require oxygen for the actual transmission of the impulse or for the recovery of excitability and conductivity. Oxygen, however, is necessary to remove the breakdown products formed during the passage of the impulse, so that the next impulse may find an adequate local supply of energy for its transmission.—On the Ovarian Factor Concerned in the Occurrence of Œstrus, by F. H. A. Marshall and W. A. Wood. The experiments were conducted on three bitches. The ovaries having been exposed, all the Graafian follicles visible on the surface were cauterised a short time before the œstrus was due. It was found that the heat period was missed and there was a prolonged period of anœstrum which might extend over the duration of two or more œstrus cycles. That the uterus did not atrophy was shown by the subsequent reappearance of heat and the resumption of normality. If, however, the follicles were only cut into without being destroyed, heat was not postponed or only slightly so. The general conclusions reached are that proœstrum and œstrus are due to an internal secretion of the ovary produced by the follicles during the pre-inseminal stage of development. Uterine and mammary hypertrophy during pregnancy and pseudo-pregnancy depends on another

secretion, that of the corpus luteum. The normal nutrition of the uterus is maintained by yet a third internal ovarian secretion, produced by the smaller follicles or by the interstitial cells. All three secretions probably differ from one another qualitatively as well as quantitatively.—The Regulation of Respiration, by Thomas Lumsden. The three lower respiratory centres are regulated partly by chemical conditions—lack of O_2 and excess of CO_2—and partly by nervous influences—mainly vagal and trigeminal. (1) The "gasping centre" at the nœud vital is stimulated more powerfully by a combination of chemical factors, while the vagus has an inhibitory effect. Vagotomy invariably tends to liberate gasps. (2) The expiratory centre is merely impaired by oxygen-lack, and vagal stimulation is inhibitory. Vagotomy releases and prolongs active expiratory movement. (3) The apneustic centre, situated at the level of the striæ acousticæ, is stimulated by excess of CO_2 and by a moderate lack of O_2. Severe lack of O_2 causes the inspiratory tonus (apneusis) to fail and so indirectly as well as directly liberate gasping. Vagal stimulation inhibits apneusis, thus on occasions allowing the "gasping centre" unrestrained activity. Thus the effect of vagal stimulation on these centres is a tonic one in accelerating the rhythm of respiration and in diminishing the respiratory movements. Vagotomy, on the other hand, slows and deepens respiration.—Nerve Regeneration from One into the Other of Two Rats United in Siamese Pairs, by B. Morpurgo. If the rats are united parabiotically no nervous connexions are formed between them. To verify if this was due to the incapacity of the nerves of one individual to grow into the other, artificial nervous connexions were made in Siamese pairs of rats as follows: The cut end of the proximal stump of the right sciatic nerve of the left-hand rat was brought into apposition with the cut end of the distal stump of the left sciatic nerve belonging to the right-hand rat; whilst the proximal portion of this nerve was torn away from its roots. On the seventh day the connected nerve stumps were surrounded by recent granulation tissue, and outgrowing fibres from the axis-cylinders of the central stump had nearly reached the granulation tissue. On succeeding days the newly-formed fibres advanced into the peripheral stump and on the twentieth day had reached the popliteal space. Between the forty-fifth and sixtieth day they had reached the periphery, when they formed new end-organs. The regenerated motor end-plates were super-abundant and the regeneration of the nerve-endings took place in both rats. Muscle-spindles and neuro-tendinous organs also regenerated. Physiological experiments showed that after one month and a half motility, sensibility, and reflexes appear again in both legs; the contractions of the muscles in the right-hand rat can be caused by stimulating the sciatic nerve of the left-hand rat near the exit of the nerve from the pelvis; after two months and a half cross-end reflexes also appeared.—The other papers are two by J. N. Langley on Antidromic Action, and on the Vascular Dilatation Caused by the Sympathetic and the Course of Vasomotor Nerves; an Ergometer Adaptable for Either Hand- or Foot-movements, by E. P. Cathcart, G. M. Wishart, and J. McCall; Colormetric and Electrometric Methods for Hydrogen-ion Concentration of Blood, by Ruth Conway-Verney and L. E. Bayliss; A Possible Relation Between the Pancreas and the Parathyroids, by L. B. Winter and W. Smith, in which it is shown that after a preliminary injection of parathyroid extract into rabbits convulsions are induced following one-third to one-quarter the normal dose of insulin.

Reports and Analytical Records.

BOVININE: A RAW FOOD EXTRACT.

(NEW YORK: BOVININE COMPANY; LONDON, J. D. BISHOP, 22 AND 23, GREAT TOWER-STREET, E.C. 3.)

MORE than 30 years ago our analysis of this concentrated form of beef, which is prepared on scientific principles, showed an albumen content of as much as 16·96 per cent., calculated on nitrogen, with total organic matter of 17·77 per cent.; the mineral matter consisting chiefly of iron and phosphoric acid was 1·43 per cent. The food value of the extract is therefore high and many years of trial have confirmed its value where a nutrient capable of easy assimilation is indicated. Both with adults and infants good results have been obtained in illness, and in convalescence, especially in cases of gastric disturbance accompanied by loss of appetite and anæmia, the preparation has been found useful. The dose for an adult is half to one teaspoonful, gradually increased to a tablespoonful, either before or after meals and on retiring at night; it should be well diluted in milk or water, but other diluents can be substituted to meet the case. The dose for an infant is 5 to 10 drops in the food or mixed with barley-water; in this way it can be given at frequent intervals.

ZINC OXIDE RUBBER ADHESIVE PLASTER.

(MESSRS. EDWARD TAYLOR, LTD., SALFORD, MANCHESTER.)

The gently astringent action of oxide of zinc on raw surfaces is well known and its application in connexion with adhesive plasters is an advantage in suitable cases. Messrs. Taylor, Ltd., supply, in spools containing 5 or 10 yards respectively and varying from ¾ inch to 4 inches wide, a rubber zinc oxide adhesive plaster which is a very effective form of application. It is antiseptic, non-irritating, and adheres without heat or moisture, while the flesh-coloured cloth on which the plaster is spread has a certain cosmetic value.

SCILLAREN.

(SANDOZ CHEMICAL COMPANY, LTD., BRADFORD.)

Scillaren is a glucoside of squill and is supplied in tablets, solution, and ampoules. The action of squill is well known to resemble that of digitalis, but some constituent of squill, when excreted by the bronchial mucous membrane, acts as an expectorant. A stable preparation, supplied in convenient forms, will be found useful in the many conditions where the drug has been satisfactorily employed for something like a century.

PINEOLEUM.

(AMERICAN DRUG SUPPLY COMPANY, 40–42, LEXINGTON-STREET, LONDON, W. 1.)

We have received samples of Pineoleum Brand Inhalant which has been found by laboratory tests to be a standardised preparation, and to exert inhibitory action on various micro-organisms. Pineoleum has been sprayed upon the surface of culture-media contained in Petri plates and previously inseminated with test organisms, a sufficiently fine spray being obtained by the nebuliser provided with the drug. Slightly less than 0·25 c.cm. of the fluid was sprayed on the culture-media in each experiment. Petri plate cultures, prepared with test organisms under exactly similar conditions, but to which the Pineoleum had not been applied, being used as controls. The controls and the sprayed cultures were incubated for three days at 37·5° C. before the final readings were made. The results showed Pineoleum to have certain inhibitory properties in regard to the meningococcus and the Klebs-Löffler bacillus, while with the *Bacillus influenzæ* the action was apparently marked. A convenient form of nebuliser is supplied by the company, so that spraying into the mouth and throat is rendered easy, and the use of the preparation in this manner has been followed by relief in coughs accompanying influenza. The inhibitory action suggests that Pineoleum can be used as a preventive measure not only in influenza but in other communicable conditions.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 24, 1923.

CONVALESCENT CARE.

WITH a widening conception of the laws governing public health, the public is coming to realise the importance of minor degrees of disease as factors productive of much individual and national distress. The increasing number of patients who seek advice at the out-patient departments of our great hospitals points, not to a greater incidence of disease, but to this appreciation of the value of treatment as a preventive, or as an aid to speedy recovery once the acute stage of an illness is over. The medical profession has long insisted upon the need for prophylaxis, and now the importance of careful convalescence is being urged. Speaking to the Society of Medical Officers of Health, the incoming President, Dr. T. W. NAYLOR BARLOW, expressed the opinion that much ill-health and many of the disabilities in adult life leading to casual labour and poverty are caused by incomplete convalescence from the so-called minor ailments of childhood. While that is undoubtedly true, the effects of insufficient convalescent care after many diseases of later life can be no less crippling. In 1920 the Birmingham Hospital Saturday Fund spent more than 50 per cent. of its total collections on the upkeep of convalescent homes, and in the same year Sir NAPIER BURNETT, in a survey of the hospital situation throughout England and Wales, recommended that every encouragement should be given for the establishment of convalescent hospitals in the country, for the dual purpose of pre-hospital and post-hospital care.[1] This movement towards the systematic treatment of convalescence and sub-standard health conditions has received further emphasis by the inauguration of the magnificent Astley Ainslie Institute in Edinburgh, and the opening, this week, of the Catherine Gladstone Home at Mitcham, Surrey, in connexion with the London Hospital. In America the Burke Relief Foundation, which has functioned since 1915, has enabled valuable conclusions to be drawn regarding the necessity of convalescent facilities for balanced advance in public health work.[2]

Thus the convalescent home is ceasing to be regarded as a luxury of the well-to-do, and the establishment of such institutions for the poor is now recognised as an economic factor of national importance. Indirectly, by giving an opportunity to study disease from a viewpoint hitherto rather neglected, the convalescent home will extend the field of the hospital; but, more directly, acute conditions may be aborted, or distressing sequelæ averted, in patients whose disability does not justify their claim to the costly resources of a hospital bed. Among the hospital population an ailing member in the family circle is often a burden that soon becomes intolerable, although the patient is considered to be out of the doctor's hands. In this connexion may be instanced certain subacute heart and kidney cases, where the only treatment called for is rest and respite from the demands of an active life. The instructions to "take it easy" are often impossible of fulfilment in the home, and yet the swollen waiting lists for the hospital wards require immediate dismissal of a case so soon as the danger period is passed, although the patient may be actually still unfit for the exigencies of normal life. This is the gap—between unfitness and a return to normal activity—that the convalescent home is designed to bridge. Apart from the obvious physical advantages to the patient from a more or less prolonged and carefully supervised sojourn in convalescent home, the psychological aspect of this treatment is of the greatest importance. Convalescence should be a period of re-education to the normal standards of self-supporting existence. This point is—often of necessity—frequently overlooked by the hospital physician; but to the patient, whose body and mind have been exhausted in a long struggle with disease, the return to family life may seem at first overwhelming. Attention to an invalid who is not ill enough to be interesting is apt soon to become irksome, and the patient, sensitive to his or her temporary uselessness among wage-earners, may easily give way to despondency and despair, thus making matters worse all round. In the Burke Foundation scheme great importance is placed on re-education, and results amply justified the experiment. The therapy of "help each other," with the hopeful outlook a non-medical atmosphere engenders in the mind of the convalescing patient, was found to be more valuable in promoting a speedy recovery than much elaborate medication. Each case, of course, must be treated on its own merits, and the right selection of patients for convalescent treatment is essential.

There is no need for the convalescent home to be an elaborate and costly institution, the simpler and the more self-supporting it is the more will its purpose be furthered. The provision of such centres would greatly lighten the work of the hospitals and reduce expenses considerably, while meeting a very real and urgent need among the people. Until—if ever—the nation is adequately housed, the benefits of hospital treatment are too often annulled by the immediately subsequent conditions of home life in a hovel. We commend to testators and donors a fruitful outlet for wealth.

[1] THE LANCET, 1920, ii., 1226. [2] Ibid., Sept. 1st, 1923.

THE INTIMATE MECHANISM OF INFECTION.

IN spite of the voluminous literature upon the subject of immunity, the intimate mechanism by which the body resists and overcomes organismal invasion is still very far from being understood. The work of the last 20 years, and the arguments of the humoral and cellular schools, have given us an enormous mass of facts and experimental data upon the interaction of bacteria and their products with the body fluids and cells under various conditions. Search has been made for a simple mechanism which will explain all cases, and this is probably a search for something which is non-existent. Organisms differ so enormously in their physical properties and biological activities that immunity in all likelihood exists in many types. The main result of the enormous mass of work which has been expended upon this subject in the humoral field has been to elucidate a train of test-tube reactions, such as the precipitin, agglutination and complement-fraction tests. These have become of great importance not only in diagnosis but in medico-legal work and even in the field of commerce; and yet they are only by-products of the main line of research, and as far as can be seen play no very important part in the bodily mechanism of resistance, defence, and recovery, although they may be coincident phenomena. In the cellular field METCHNIKOFF'S classical studies overtop everything, and here indeed there has been a good deal of enlightenment, although the phagocytic doctrine is far from being sufficient to explain every case. In these circumstances it is only natural to ask if other forms of aggression, on the part of the organisms, may not exist side by side with corresponding means of defence on the part of the body, and to inquire if in our extant studies we have not largely missed the mechanism involved.

This aspect of the problem is the theme for a recent essay by Dr. ARTHUR EASTWOOD, published by the Ministry of Health.[1] In reviewing the existing work he is considerably attracted by the old hypothesis of BAIL, that in its growth in the body the bacterium produces a special form of toxin, named by its discoverer "aggressin," which enables it to establish itself and to successfully overcome the forces of resistance. The fundamental experiment of BAIL consisted in inoculating a culture of an organism into one of the serous cavities of an animal. After a certain incubation period the resulting effusion was withdrawn and freed from organisms; it was then found that the sterile fluid, although in itself relatively non-toxic, had the power of so raising the potency of a culture that a dose of the latter, ordinarily non-fatal, became easily lethal when mixed with this fluid. Further, the "aggressin," as the active principle of the fluid was called, had the capacity of exciting immunity when injected alone; so that from the point of view of these experiments the problem of immunity became one of reaction between aggression and antibody called forth in response to its presence. The objection to BAIL'S theory has always been that the highly complex material which contained his aggressin contained also both endo- and exo-toxins from the organisms injected, as well as protein degradation products, and that the results, far from being due to a single substance, were due to a very varied mixture of substances. The aggression theory has lain on the shelf, little disturbed, for a number of years now. Interest has recently been revived by an account of somewhat similarly acting bodies which ZINSSER has obtained in vitro. Dr. EASTWOOD thoroughly surveys the work in this field, and although he has an evident liking for the hypothesis we have discussed, he concludes that its truth has not been definitely proven. He gives us a most interesting discourse upon virulence, but at the end we are still left wondering what it is that makes an organism pathogenic.

THE SPECIAL COURT OF INQUIRY.

LAST week, as every one knows, the Panel Conference took the bold and straightforward course of accepting a Special Court of Inquiry to determine the amount of the capitation fee to be paid next year. The decision to do so, although it was not reached until after a critical debate, was in the end unanimous. During debate it was pointed out with justice that a voluntary association cannot keep up interminably a fierce struggle, that a Court of Inquiry would give unlimited opportunity for mud throwing at the panel service, and that an award of less than the Minister of Health's offer would spell irretrievable disaster. But the argument as put from the chair appealed irresistibly to the Conference: If your case is really very sound, go for the Court of Inquiry and have it settled properly. The fact was recognised by this resolution that no organisation can afford to act illogically. What, indeed, is the purpose of organisation except to stand out for just rights? Criticism of the panel service by friendly society officials must be met somewhere, within or without Parliament, and the campaign of propaganda (it has been called "impropaganda") has already been set going by circulars to insured persons. A Special Court of Inquiry is indeed in another form the arbitration which was repeatedly asked for by the panel executive and refused by the Minister—or so it must be regarded by the thinking public whose sympathy it is essential for the doctors to retain. This is the simple train of thought which led to the decision, and it is unnecessary for us to report further the stages by which it was reached.

The political situation will not materially affect the Court of Inquiry. As our Parliamentary correspondent tells us, the Minister of Health had already issued invitations to possible members of the court before Parliament was prorogued. The court is to be composed of three or five persons of the type of those who arbitrated in 1920, and there is no reason to doubt their impartiality. The actual terms of reference have not yet been drafted, but the court will be asked what would be the proper capitation fee to be paid to insurance practitioners for their services as from Jan. 1st next on the basis of the existing terms of service, with the modifications resulting from the negotiations of this summer. The Minister has let it be known that it will be open to all parties to appear before the court, and that the approved societies, "who represent to a very large extent the insured population," will have the fullest rights to state their views. The court, however, will only be competent to consider such evidence as will assist it to decide what the service as above defined is in fact worth: wider questions of policy will remain to be dealt with by the Royal Commission. It will be therefore for the Commission and not for the Court of Inquiry to consider such questions as those raised by the National Medical Union in a circular, of which a copy has been sent to us, entitled "The National Health Insurance Act from the point of view of the Non-Panel Doctor." The Union is of opinion that, as long as human nature remains what it is, contract practice of any kind will be thoroughly unsafe and bad, for the reason that it inevitably means a maximum of profit for a minimum of work. The Act has, it is stated, actually increased the poverty of those who through frequent illness are reduced to a chronic state of distress, without relieving their ill-health. Anyhow, the loss of independence and self-respect, alleged to be induced by the Act among both insured people and the doctors who attend them, more than counterbalances the relief afforded. Furthermore, the Act provides men of inferior ability and qualifications with a comparatively quick method of obtaining a livelihood, and until the medical benefit portion of the Act is remodelled or erased, the quality of medical practice will continue to deteriorate and the health of the people will suffer. This is the considered opinion of a responsible group of general practitioners, and it would surely be impossible even for approved society officials to state a case with more vigour. But the Union is not against the principle of national insurance as such, and believes that a solution may be found in a system of unfettered private practice under a contributory scheme by which the insurance pool would be used for payment of medical bills. The work of the Court of Inquiry will be done when the total amount of money to be distributed among the doctors engaged in insurance practice has been determined. It will remain as heretofore largely for the doctors themselves to determine the method of distributing the pool. Those, however, who are best qualified to judge see little evidence during the last ten years in support of the assumption that contract medical practice has deteriorated, while vital statistics refute the suggestion that the health of the people during that period has suffered.

MEDICINE AND LITERATURE.

AT the Royal College of Physicians of London on Nov. 20th Mr. EDMUND GOSSE, LL.D., delivered the first David Lloyd Roberts Lecture, taking as his subject Personal Relations Between Medicine and Literature. Sir HUMPHRY ROLLESTON, who presided, referred to the occasion as unique not only because that was the first lecture under the David Lloyd Roberts Bequest, but also because the College had never before had the honour of sharing a lecture in common with the Medical Society of London and the Royal Society of Medicine. He recalled the circumstances of the founding of the lectureship, and claimed credit for the choice of the first lecturer.

[1] Reports on Public Health and Medical Subjects, No. 22. Bacteriological Studies: 1. "Factors Determining Bacterial Virulence." H.M. Stationery Office.

Mr. GOSSE described himself as not personally acquainted with Dr. LLOYD ROBERTS, and therefore as dependent for his impressions of the latter on the reports of others, chief among whom were Dr. W. E. FOTHERGILL and Dr. HERBERT SPENCER. He understood that Dr. LLOYD ROBERTS, although reticent as to his exact age, was at least 85 when he died in 1920. He was a self-made man, who, like KEATS and IBSEN, received his first impressions among the gallipots of an apothecary; he retained throughout his life a certain roughness of temper. Mr. GOSSE went on to say that they were met not because Dr. ROBERTS was a great gynæcologist, but because he frequented bookshops as a collector in the best sense of the word. He himself was anxious to approach his subject in the spirit which Dr. ROBERTS would have wished; in his own first youth he had had the ambition to be a surgeon, and although constitutionally unfitted for the career had proceeded a little way in it. Passing to what history offered in testimony of the relation between the professions of medicine and literature, Mr. GOSSE said he wished to separate the two groups, usually joined, of men who had given literary form to their medical writings, and of men who had written prose and poetry apart from their profession. The greatest of ancient physicians were conscious of literary form; AMBROISE PARÉ had noticed that HIPPOCRATES took care to write simply and clearly, apparently that women and girls should be able to understand his meaning. Phœbus Apollo, destroyer and healer, was god of medicine as well as president of Parnassus. There was no need to recall the fact that the author of the "Religio Medici" was a man of letters. Salerno, celebrated for its salubrity of climate, had formed the nucleus of medical education in the early Middle Ages. Little though we knew of this school, it was a shining lamp amid the darkness of the ninth century; when all other education was crushed into ecclesiastical form, the school of Salerno held to sanity amid priest-ridden superstition and ignorance. The professors of Salerno wrote in clear language, using no inflated jargon of the other schools; he liked to think that something of the Greek spirit remained with them—that they cared for the humanities as well as for humanity.

Tracing the apparent influence of the Salernians on later medical literature, Mr. GOSSE expressed himself as unable in the short time at his disposal to deal with RABELAIS and MONTAIGNE, but hoped that some successor would expatiate in those directions. PARÉ first dared to address the ordinary reader in the latter's own language, although his fellow physicians tried to suppress his works on the ground that their terms were intelligible outside the profession. Early in the seventeenth century the writings of PARÉ were translated into English; Sir THOMAS BROWNE then began to compose the "Religio Medici"—the earliest work in which the harmony between the physician and the man of letters was apparent. In 1659 THOMAS SPRATT, afterwards Bishop of Rochester, published a poem which nominally dealt with the plague at Athens described by THUCYDIDES, but really referred to the outbreak which had lately occurred at Naples. Such an extended work entirely on medical themes was not repeated until GARTH published his poem 40 years later. Continuing, Mr. GOSSE referred to Sir THOMAS BROWNE, to LOCKE, the friend of SYDENHAM, and to Sir RICHARD BLACKMORE, whom he described as a reputable physician misrepresented by the hostility of DRYDEN. BLACKMORE, who became a Fellow of the Royal College of Physicians in 1657, produced two long and vapid poems, Prince Arthur and King Arthur, which were widely read and savagely attacked, the writer also being asked why he did not treat of some useful medical subject. After that time the question was no more raised in England; the barrier between imaginative literature and medical science was finally broken down when Sir SAMUEL GARTH'S long mock-heroic poem, The Dispensary, dealing with the quarrel between physicians and apothecaries over the furnishing of free drugs to the poor of London, appeared in 1699. GARTH'S poetry was only half-poetry, and his science only half-science, but he drew the subjects together as they had never been drawn before. Before GARTH died the connexion between medicine and literature had become not the exception but the rule; a warm comradeship was established between doctors and authors in the greatly improved civilisation of the reign of ANNE. Pre-eminent among the lettered physicians of those days was Dr. JOHN ARBUTHNOT, who took up the mantle of GARTH, and was always most at home in the company of authors. POPE and SWIFT were invalids, neurotic to excess, made difficult of access by intense nervous irritability; the cheerful humour of ARBUTHNOT was their constant bromide. Also among his friends were GAY, PARNELL, ATTERBURY, STEELE, and CONGREVE. An Aberdonian, ARBUTHNOT gained slow recognition in London, until PRINCE GEORGE was taken suddenly ill at Epsom when ARBUTHNOT happened to be present—an illustration, remarked Dr. GOSSE, of the fact that talent and industry were insufficient for success without the sovereign element of good luck. ARBUTHNOT became a Fellow of the College in 1723; he remained a planet in the constellation of wits for a quarter of a century. He was still remembered for the irony of his "History of John Bull"; of his medical writings the most famous dealt with the nature of "animates"—what would now be spoken of as vitamins. Of medical men who made names in literature during the eighteenth century, OLIVER GOLDSMITH and others never received recognition from the College; but MARK AKENSIDE, poet and anatomist, enjoyed every distinction the College had to bestow. Coming to the present day, Mr. GOSSE recalled the fact that the Poet Laureate was a medical man, and expressed his belief that if Dr. ROBERTS had chosen to perpetuate his subject in sculpture, instead of by oratory, he would have selected a statue of ARBUTHNOT, together with busts of POPE, SWIFT, STEELE, and GAY, to crown the monument.

Annotations.

"Ne quid nimis."

DENTAL BOARD OF THE UNITED KINGDOM.

THE autumn session of the Board was opened on Nov. 13th at 44, Hallam-street, W., when the chairman, Mr. F. Dyke Acland, delivered an address. Only within the last few months, he said, had the Board been able to begin to deal with the many important duties which would normally devolve upon them, the first 18 months of their time having been occupied with the machinery of registration. The day seemed to draw nearer when by the process of ordered evolution the Board might, much to the regret of its other members, lose the representatives from Southern Ireland. The passing of the Dentists Act of 1923, which became law in July, necessitated an amendment of the Regulations; an opportunity would be taken to amend the table of fees, and to obtain authority for their remission in certain cases, in order to carry out the wishes of the Board and prevent hardship for those who would have qualified prior to the passing of the Dentists Act, 1921, had it not been for the war.

It was, Mr. Acland said, of the utmost importance, if sufficient dentists were to be obtained to meet the requirements of the population in future, that the number of students should be increased. The Board had already taken steps to this end; large sums of money had been expended in helping those who found that the Government grants were not sufficient to enable them to complete the curriculum; a beginning had also been made in the granting of bursaries to persons who, for want of means, would have been unable to enter upon the profession of their choice. It would be necessary to spread these over as large a number of students as possible, and, though the grants hitherto had been on a liberal scale, the Board might not be able to

continue them so freely, and experience alone would show what could be done in this direction. In connexion with propaganda for instructing the public in the great importance of having their teeth properly attended to at regular intervals, and of taking care to prevent decay, from the point of view of the health of the nation this matter required earnest consideration; he felt sure it would be to the public advantage if the Board could take steps to carry out some of the suggestions made in the Report of the Departmental Committee. Applications had been invited from schools for assistance to enable them to deal with a large number of students when these have been obtained, and to give them the best facilities for instruction. Arrangements had been made for an extension of the lectures on the higher scientific branches of dentistry given in the early part of this year. It was hoped that full advantage would be taken of them, and that, when published in pamphlet form as they would be, those who desired to study at their leisure the valuable information provided would have an opportunity of adding the work to their professional libraries at small expense. Courses of instruction had also been provided for persons who obtained registration in virtue of long years of practice, or of having passed the prescribed examination. Great assistance in this direction had been rendered by some of the dental schools, which was much appreciated, and the Board had arranged for experimental courses to be held at three or four centres where such schools are not available. The indications were that the applications to attend would be numerous. The Board were much gratified by the help promised in the direction of research both by the Medical Research Council and the Department of Scientific and Industrial Research. It was hoped to make considerable grants, extending over a series of years.

The Board, Mr. Acland continued, had to consider an arrangement arrived at between the British Dental Association and the Parliamentary Committee of the Coöperative Congress in regard to the association of dentists with coöperative societies. This question, which at one time threatened to prove very difficult, had through the good offices of the officials of both of these bodies, been solved so far as they are concerned. The question, however, has been raised as to whether the arrangement come to constituted the carrying on of the business of dentistry by the societies, and this the Board would have to consider. At present there appeared to be some difficulty in regard to panel practice, and, though the matter was not one which directly concerned the Board, it might be necessary to take it into consideration. With regard to disciplinary cases, there had been a noticeable improvement in regard to advertisements, signs, and other matters which, from a professional point of view, were not desirable. The time had now come when all dentists might be expected to know the views of the Board on the subject, which in the main might be summed up by saying that signs, other than those necessary to enable patients to find the premises they sought and announcements in the press, which contained the word "dentist," or anything relating to dentistry, might be considered to be advertisements; and before long it might be necessary for the Board, instead of warning practitioners, to summon them to appear in answer to a charge which, if found proved, might have very serious consequences for those concerned. The Board had successfully undertaken a considerable number of prosecutions of persons illegally practising dentistry; in view of the fact that the Act has only been passed recently, merely nominal penalties had been asked for. In this matter, again, the time was coming when the Board would have to ask that offenders might be severely dealt with. Magistrates had sometimes said that offenders had received no warning from the Board, but it must be borne in mind that, if it were customary, before taking proceedings, to warn, there were some persons who possibly would carry on to the last possible moment in expectation of this, and some persons, if warned in one district, would promptly move to another. It must be clearly understood that for an unregistered person to see a patient, whether in connexion with the fitting of artificial teeth or in any other way, was a breach of the law; and it was the intention of the Board to see that the provisions of the Dentists Act, 1921, were strictly carried out.

RAPPROCHEMENT WITH VETERINARY MEDICINE.

AN excellent example of the light which may be thrown upon the problems of human physiology and pathology by research undertaken from a purely veterinarian standpoint is afforded by investigations recently made by Dr. Theobald Smith and Ralph B. Little, V.M.D.,[1] at the Department of Animal Pathology of the Rockefeller Institute for Medical Research, into the significance of colostrum to the new-born calf. The investigation originated in an attempt to throw some light upon the high mortality of calves in the first week of life; this high mortality due to "scours," inflammation of the umbilical stump, and acute arthritis is the bane of owners of prize herds to whom it means the annual loss of many valuable animals. The infective nature of the fatal conditions has long been recognised and attempts have been made to combat them by isolating the calf immediately after birth and feeding upon sterilised or "clean" raw milk. The proved futility of these measures seems to have afforded the stimulus for the work of Smith and Little. They took two groups of calves; the animals constituting the first group were removed from their dams as soon as born and before they had had the opportunity to suckle; they were washed and dried with all possible aseptic precautions, the umbilical cord was snipped off and treated with antiseptics, and the calves then wrapped in blankets and transferred in a specially protected motor-lorry to the experimental units of the Department, a distance of about one and a half miles. The animals of the second group were left with their dams 24 hours, during which time it was ascertained that they suckled freely. They also were then removed to the Department units. At the units the calves of both groups were subjected to exactly the same treatment and given the same diet of fresh raw milk. Attention was directed to the condition of the calves during the first week of life, this, as pointed out above, being the danger period. During this time the fates of the animals constituting the two groups were strikingly different. Of the ten calves which had taken freely of colostrum, all remained alive and healthy; of the 12 which had received none only three survived this first week. In the nine animals which succumbed death was in every instance due to a blood infection by *B. coli*, this organism being readily recoverable from the spleen, liver, and kidneys, and in those which had developed arthritis from the joints also.

Although they do not definitely say so, the impression of the authors appears to be that the infecting strain of *B. coli* was not necessarily pathogenic. It is known that both in man and the lower animals *B. coli* appears in the bowel very shortly after birth; the conclusion of Smith and Little is that in the absence of the colostrum this organism, instead of remaining a harmless saprophyte in the gut, gains ingress to the blood-stream and gives rise to a systemic infection. In the human field the above piece of research is complementary to recent observations on the constitution and function of the colostrum. Thus Lewis and Wells[2] have shown that the blood of babies at birth contains little globulin and practically no euglobulin; colostrum they found to be rich in both these bodies. Moreover, they clearly demonstrated that whereas the proportion of these bodies

[1] The Significance of Colostrum to the New-born Calf. Theobald Smith and Ralph B. Little. Studies from the Rockefeller Institute for Medical Research. Reprints, xliv., 523.

[2] The Function of Colostrum. J. H. Lewis and H. G. Wells, Jour. Amer. Med. Assoc., lxxviii., March 25th, 1922, 863.

rose rapidly in the blood of babies who had received colostrum, in those who had not the normal level was not attained for several weeks. It has long been recognised that antibodies of all sorts are associated with the globulin fraction of the serum, and the above authors suggested that the colostrum is the vehicle of conveyance of the maternal antibodies to the serum of the offspring. The observations of Smith and Little throw light upon several other points in human pathology which cannot be touched upon here; but alone in giving practically conclusive proof of the validity of the tentative suggestion of Lewis and Wells they demonstrate the value of the comparative outlook in medicine.

THE ÆTIOLOGY OF URINARY LITHIASIS.

Linwood D. Keyser[1] has carried out a series of experiments on rabbits to test some of the various theories that have from time to time been put forward to account for the formation of calculi in the urinary tract. He has produced evidence against the view that a diet rich in calcium is a predisposing factor in stone formation, by feeding rabbits with massive doses of calcium oxalate, chloride, lactate, and phosphate. Healthy rabbits were used and also some in which a mild degree of toxic nephritis had previously been produced by the administration of small doses of oxalic acid, cantharides, chloroform, and mercuric chloride. In no case was there any demonstrable increase in the crystalline content of the urine nor was there any concrement formation. Similarly, the presence of an organic foreign body in the pelvis of the kidney as a predisposing cause was disproved by placing small pieces of fascia and muscle under sterile conditions into that region. In only one case, and that in which bacterial infection had taken place, was there any deposit round the foreign body. One substance was, however, found to produce stones when given orally—namely, oxamide (the diamide of oxalic acid $\begin{matrix}CONH_2\\CONH_2\end{matrix}$). When rabbits were fed on this compound, 75 per cent. revealed a deposit of gravel and 50 per cent. stone formation, although cultures of the organs were repeatedly sterile. The amount of oxamide found in the urinary tract after death did not appear to be influenced by the reaction of the urine, variations in dosage, and duration of the feeding within wide limits. The oxamide in the urine consisted of pigmented crystals in the form of crosses, simple and rough, squares and spheres, the latter tending to fuse to form small concrements and stones. Crystals of oxamide produced synthetically by treating oxalic ester with ammonia were found to have the form of translucent, colourless, fissured rhomboids, some with roughened and split ends. If these were dissolved in urine, and re-precipitated by heating, the process being repeated several times, crystals were produced exactly similar to those obtained from the urine of oxamide-fed rabbits, and if the latter crystals were dissolved and passed through heated charcoal, the pigment was extracted, and forms resulted exactly similar to those produced synthetically. Thus it would appear that "the urinary colloids act on the oxamide crystals so as to transform them into fusing forms." It is probable that the colloids in the urine normally keep the water-insoluble crystals (urates, oxalates, &c.) in solution, but if any foreign crystalloid is present, such as oxamide, there is no mechanism to keep its crystals separate as morphological units, nor to keep it in solution, and therefore it is precipitated by the normal colloid so as to produce fusion and concrement formation. Further, the presence of an abnormal colloid or any interference with the normal colloids in the urine may cause the normal crystalloids to be precipitated. Although the most likely source of an abnormal colloid seems from clinical and experimental data to be inflammatory exudates, the fact that in pyelitis and nephritis stones are uncommon proves that not every inflammatory exudate produces stone, nor does every abnormal colloid, and therefore it is possible that stone-forming colloid and colloid-forming bacteria are specific. The experiments quoted above also show that an abnormal crystalloid may be precipitated without the presence of infection. In a further series of oxamide-fed rabbits it was demonstrated that roughening of the renal pelvis resulted in a greater deposit of oxamide on that side, and that slight constriction of the ureter brought about stone formation in every case, whereas, in the absence of constriction, stones were formed in only 50 per cent. Where pieces of fascia or muscle were placed in the pelvis, stone formation was consistently noted round such a nucleus. Hence, it was concluded that "duplication of surfaces, diverticula, stasis, hydronephrosis, and nuclei, while not the cause of stone, greatly enhance the chances of retention of fusing crystals when these are present, and in this manner foster the formation of larger stones." Clinically, therefore, stones may be caused by the pouring out of abnormal colloids from an infected kidney, these colloids causing precipitation of crystalloids and their fusion. This conception explains why removal of the infected kidney is seldom attended by a recurrence of stones, and why recurrence in an infected bladder is so common. It also lends support to the views held by many authors that any focus of infection, or any lowering of the resistance in the individual may be a predisposing factor in the formation of calculi.

[1] Papers from the Mayo Foundation, ii., 1921–22.

HYDROGEN CYANIDE AS A DISINFESTOR OF SHIPS.

Dr. P. G. Stock's paper, read before the Section of Epidemiology of the Royal Society of Medicine on Nov. 23rd, dealing with the use of hydrogen cyanide and allied substances as disinfestors, has an important bearing on international preventive medicine. In the account of two recent cases of fatal poisoning by hydrocyanic gas occurring during the deratisation of a liner at Southampton, Dr. Seager Thomas[1] indicated the early publication of a report by the Ministry of Health dealing with this method of fumigation. Full investigation into the risks as balanced by the advantages of hydrogen cyanide as a fumigant has not yet been completed, but the Ministry have now issued a preliminary report,[2] embodying the knowledge and experience so far acquired concerning the gas. In the first place it is pointed out that hydrogen cyanide is not a disinfectant, and is not used for ordinary purposes of disinfection of houses or clothes—e.g., after infectious fevers. It is, however, a powerful agent for the destruction of animal life, and of insect pests generally. The fumigant hitherto favoured in this country has been sulphur dioxide, but the advantages claimed for the use of hydrogen cyanide, for the destruction of vermin on board ship, are, apart from the time occupied in the process, the absence of danger from fire and of damage to metal work, paint, fittings, and cargo; it is also supposed to be less expensive in practice. The outstanding disadvantage of its employment is that every stage of the process is accompanied by danger to the lives of all persons engaged on the work of fumigation. The report, however, shows that this danger can be reduced to a minimum provided adequate precautions are taken, and strictly maintained throughout the whole process. Further, the fatal accidents which have occurred in this and other countries are held to be due mainly to lack of precaution or to carelessness of the operators.

The steps employed in the fumigation of a ship can be divided into three stages: (1) The ship is inspected and the details of the fumigation planned. All openings are then closed, and the generating

[1] THE LANCET, 1923, i., 1210.

[2] Preliminary Report on the Use of Hydrogen Cyanide for Fumigation Purposes. By Dr. P. G. Stock and Mr. G. W. Monier Williams, Ph.D. London: H.M. Stationery Office. 1923. 2s. 6d.

plant placed in position. (2) The plant is charged and the gas generated, when the vessel is left under fumigation. (3) The ship is opened up and allowed to ventilate, tests being made to determine when she is free from gas. To prevent accidents two precautions are necessary: (*a*) The employment of only a trained personnel, and (*b*) the use of effective respirators. Should an accident occur, it appears that artificial respiration employed as soon as possible and without waiting for other means of assistance affords the best prospect of success. The methods employed in generating the gas were detailed in these columns some months ago.[3] As hydrogen cyanide gives no warning symptoms in sublethal concentrations, attempts have been made to combine it with some lacrymatory substance. Such a mixture, known as "Cyklon," has been used in Holland, but it is still on trial. Liquid hydrogen cyanide contained in steel cylinders has been employed, but, after a rise of atmospheric pressure, the cylinders have been known to burst. The dangers of such an accident are obvious.

In his summary of the report Sir George Newman states: "There is no doubt either as to the efficiency of fumigation by hydrogen cyanide for the destruction of rats and vermin, or as to its danger. It must, I am afraid, be considered a hazardous occupation, and the question arises whether the application of this method of disinfection should be specially restricted by licence." The enormous wastage to health and to merchandise alike caused by vermin renders imperative the most stringent measures for their destruction. Hydrogen cyanide is efficacious, but it is admittedly dangerous. Perhaps the solution of the problem lies along the lines of improved ship construction which would render rat harbourage impossible and destruction unnecessary.

THE OUTBREAK OF DYSENTERY IN DEVONSHIRE IN 1922.

A REPORT[4] has been issued by the Ministry of Health upon the outbreak of gastro-enteritis which occurred at Lynton, in Devonshire, during October, 1922. It appears that the first cases were noted as early as June of that year, after which cases of what are now presumed to have been mild bacillary dysentery cropped up at regular intervals till the date of the main outbreak. Lynton is situated 600 feet above sea-level, occupies an area of some 7000 acres, and has a population of 1770. The outbreak was confined solely to the town. Inquiry directed to the sanitary condition of the district failed to show any evidence that the water-supply or the methods of sewage disposal could be held responsible for the outbreak. In the course of the investigation the milk from a single farm situated two miles from Lynton came under suspicion, for, with two exceptions, every sufferer in the outbreak had consumed milk obtained from this farm, and even as regards the two excepted cases it could not be positively stated that they had not partaken of this milk. The dairy-farmer proved to be an ex-officer who had suffered from an attack of dysentery in the East in December, 1917, and it appeared that he had taken an active part in the dairying of the milk, and assisted in its distribution to his customers. The discovery of this interesting circumstance led to the despatch of Mr. Bruce White to make bacteriological investigations on the spot. The actual discovery of Flexner's dysentery bacillus was made in the mucoid stools of a child aged 6 years, the son of the foreman residing on the farm which was under suspicion. From the next case that occurred a culture of Shiga's bacillus was obtained. The blood of the owner of the farm was found to agglutinate Flexner's bacillus in high dilution, while from the stools of the foreman Shiga's bacillus was obtained. After this 18 cases of bacillary dysentery were noted in 11 households, of which 13 occurred in children. The chief interest in this small outbreak lies in the completeness with which it has been possible to coördinate the epidemiological and bacteriological findings. These leave little doubt that the infection was spread through the agency of milk, and that the source of infection was an active carrier of dysentery bacilli, who proved to be the farm foreman. The main points of scientific note are the proof that milk may form a medium for the dispersal of dysentery bacilli, and that a carrier of the disease may remain infective for a period of five years.

[3] THE LANCET, 1923, i., 1223.

[4] Report on an Outbreak of Dysentery in the Urban District of Lynton, Devon. By George C. Hancock, C.B.E., and P. Bruce White, B.Sc. Reports on Public Health and Medical Subjects, No. 20. H.M. Stationery Office. 4*d*.

OCULAR INJURIES.

AN article in the September number of the *American Journal of Ophthalmology* records in outline 28 cases of ocular injury, direct or indirect, with sketches showing the fundus conditions. In some cases diagrams are appended to indicate the exact points at which the injuries were inflicted. The result is to confirm, in the main, the "laws" formulated by Félix Lagrange, the most remarkable of which are: 1. The commotion of air by the explosion of a shell at a distance may injure the eye so severely that the inner membranes are lacerated. These lesions are located generally at the posterior pole of the eye, and are sometimes very extensive. When the eye is shaken the uveal membrane is the first to give way, so that choroidal ruptures are common from this cause. 2. When the missile passes above the orbit it produces fracture of the orbital vault; the sensory and motor nerves of the orbit may be involved, but the eyeball itself is uninjured. 3. When the missile travels through the face below the eyeball, without fracturing the orbit, it produces lesions by concussion involving the eye at the level of the macula lutea. It is the most common cause of impairment or loss of central visual acuity. The lesions are the result of the concussion transmitted to the contents of the orbit by the pterygo-maxillary fossa and spheno-maxillary fissure. Among the cases of which diagrams are given are included hæmorrhages, hole at the macula, ruptured choroid, and central retino-choroiditis, sometimes slight, at others very extensive.

THE "BLACK JACK" SIGNATURE BOOKS.

AN interesting addition has just been made to the library of the Royal College of Surgeons in the shape of three volumes of Signature Books from the old "Black Jack" public house, which stood, before a process of demolition began in about the year 1902, near the old King's College Hospital. The donor, Dr. Albert E. Jones, of Crickhowell, purchased these three volumes in the "Old Curiosity Shop," which stands nearly opposite the site of the Black Jack. A fourth volume has not so far been traced. The signatures are those of young medical men, who had just "passed the College," in the phrase of a past generation, or, in other words, had just qualified as Members of the Royal College of Surgeons of England. Naturally enough, considering where and on what occasion they were written—though the word "naturally" is a sad comment on the times—the handwritings often betray traces of alcoholic exhilaration, and in many cases sprawl exceedingly. Several newly-fledged Members of the College have taken a whole page to themselves; others indulge in witticisms at the expense of fellow-signatories. The earliest autograph in Volume I. is that of Thomas Webb Fryer, of Bristol, who passed the College on Feb. 4th, 1854, and practised for many years at Grampound in Cornwall. The last signature is in April, 1892, and is that of a gentleman still in practice in London. The later autographs, be it said, are decorous enough, and are in respectable contrast to the smudged and vinous ones of the fifties and sixties. The Bob Sawyer tradition may be said to have begun to pass into oblivion while the Signature Books were still in

existence. As early as 1871 we find it referred to as a thing of the past by Dr. William Fairlie Clarke, M.A. Oxon., F.R.C.S., whose name is not in these curious old "matriculas." "Time was—and that not very long ago,—" he wrote, "when the name of a medical student was a synonym for coarseness and vulgarity, if not for profanity and licentiousness. But happily that time has passed away, we may hope for ever." It must have been a coarse and profane fellow who drew the caricature of the President of the Royal College of Surgeons, Edward Stanley, in 1857, but as a matter of fact he thus left on record, in Vol. I. of these quaint old books, the only portrait of Stanley, apart from the bust by Lough, which is now known to us. In the recent Gardner sale water-colours by J. P. Emslie and J. I. Wilson, portraying the ancient interior and mean-looking exterior of the "Old Black Jack," fetched a high price.

THE ÆTIOLOGY OF WARTS AND PAPILLOMATA.

AT the University Hospital for Diseases of the Nose, Throat, and Ears in Vienna, Dr. E. V. Ullmann has recently been carrying out some interesting investigations into the ætiology of warts and papillomata. According to his report, which is published in *Acta Oto-Laryngologica* (Vol. V., Fasc. 3, 1923), the starting-point of his investigations was a case of papilloma of the larynx in a 6-year-old boy. Early in June, 1921, some of this growth was removed, and after it had been washed in saline solution it was crushed in a mortar into an opaque milky fluid which was inoculated into abrasions in Dr. Ullmann's left arm, and also into abrasions in the abdominal wall and hard palate of two dogs. The entrance to the vagina of one of these dogs was also inoculated, the vagina being sewn up to prevent the dog licking it. By the middle of September small flat warts, resembling the initial stage of rapidly growing herpes tonsurans, had developed on Dr. Ullmann's arm. They grew quickly, developing the appearance of a pedunculated many-branched papilloma. At this stage the site of inoculation in the vagina of the dog showed several small warts of a reddish colour. After five weeks' further growth they presented the appearance of a pedunculated papilloma. At the time the papilloma was removed from the larynx of the child, his upper lip was slightly injured, and three and a half months later several small flat warts developed on the upper lip, spreading thence over the whole of the face. It was noteworthy that, while the secondary growths on Dr. Ullmann's arm and in the vagina of the dog were pedunculated, those on the child's face were flat warts. Dr. Ullmann removed a small piece of the papilloma from his upper arm on Dec. 3rd, 1921, and inoculated the upper arm of a colleague. Seven days later the reaction had passed off, but on Jan. 8th six small groups of nodules appeared at the site of inoculation, growing very rapidly and extending beyond the inoculated area. After six weeks the growth of these tumours was so luxuriant that they had to be cut away. This experiment showed that the passage of the virus had considerably decreased its incubation period and favoured its rate of growth, observations suggesting that the laryngeal papilloma is an infectious inflammatory disease. Dr. Ullmann has also passed an extract of a papilloma through a bacterial filter, and has succeeded in cultivating warts on his skin after rubbing the filtrate into abrasions. These and various other investigations have led him to think that the laryngeal papilloma is the result of an inflammatory reaction caused by a filter-passing virus. If his findings are confirmed, the treatment of laryngeal papilloma and allied diseases will have been put on a more rational footing than heretofore. It is noteworthy in this connexion that warts on the hands are particularly common in children suffering from laryngeal papilloma.

THE PROPHYLAXIS OF CONGENITAL SYPHILIS.

Prof. Almkvist, of the Karolinska Institute in Stockholm, has lately published statistics[1] with regard to congenital syphilis, which give a clear lead as to the prevention of this disease. He has classified his material according as: (1) Syphilitic mothers were not given specific treatment before confinement. (2) were given it before but not during pregnancy. (3) were given it only during pregnancy, or (4) were given it both before and during pregnancy. Of the 28 women in the first class, as many as 27 gave birth to infants who, sooner or later, showed signs of syphilis. Of the 26 women in the third class, there was not one whose infant showed signs of congenital syphilis. In the remaining classes there were too few persons for a statistical analysis to be of importance, but the upshot of a study of a total of 67 cases in which the mother or infant, or both, showed signs of syphilis was unmistakably obvious. The campaign against congenital syphilis should be primarily prophylactic, for to start treatment after the birth of a syphilitic infant is to miss the best opportunity. So far Prof. Almkvist will assuredly find every authority in agreement with him. But when he discusses the course to pursue when a child is born to a syphilitic mother, given skilled specific treatment throughout pregnancy, he is on more debatable ground. According to some authorities it should be assumed that the new-born infant may not have escaped infection: it should be "given the benefit of the doubt" and treated as if congenital syphilis had been found. Prof. Almkvist condemns this course, comparing it with that of the physician who prescribes specific treatment for an adult who has been exposed to infection, but has shown neither clinical nor serological signs of syphilis. Even when a syphilitic mother has not been given specific treatment, Prof. Almkvist prefers to withhold specific treatment for her infant till signs of syphilis have appeared. To give specific treatment in such a case is, he argues, unscientific. Till his advice is followed, little can be learnt as to the period in the life of an infant with congenital syphilis when Wassermann's reaction becomes positive. For lack of such knowledge we do not yet know for how long an infant must be kept under clinical and serological observation before it can be stated with certainty that the infant has escaped congenital syphilis. Prof. Almkvist abides by his principle even in the case of the mother who gives birth to a syphilitic infant without showing signs of syphilis in her own body. There were five such cases in his series, and he maintains that these women should be kept under observation and not given specific treatment till it is proved that they are suffering from syphilis. In many of his cases the expectant mothers were ignorant of their infection, and he urges every practitioner confronted with a case of pregnancy to take clinical and serological steps to assure himself that the prospective mother is not syphilitic. While this advice may be sound it is hardly practicable.

THE PATHOLOGY OF TORTICOLLIS.

As long ago as 1830, Stromeyer taught that injury to the sterno-cleido-mastoid muscle during birth gave rise to a hæmatoma in this muscle which subsequently atrophied, the mechanism of torticollis being more or less mechanical. In the "nineties" it was still assumed that this condition began with a mechanical injury to the muscle during birth, but it was thought that the hypothetical hæmatoma developing during labour subsequently became infected, retraction and atrophy of the muscle being due to a fibrous myositis of microbic origin. Recent investigations by Prof. Ali Krogius,[2] of Helsingfors, give support to the view that this condition is a degenerative process comparable with that of Dupuytren's contraction to the pathogenesis of which

[1] Acta Med. Scand., 1923, lix., 1.

[2] Finska Läkaresällskapets Handlingar, September–October, 1923.

Prof. Krogius has also contributed much important research. He has carried out microscopic examinations of seven cases of torticollis, the ages of the patients being 8 months and 14, 16, 17, 19, 20, and 24 years respectively. In two cases the torticollis did not begin to develop till the patients had reached the ages of 5 and 15 years respectively, and in two other cases the condition had not been noticed till more than a year after birth. A microscopic examination was also made of a muscle that had undergone ischæmic contracture in connexion with a fracture of the humerus, and also of the rudimentary interosseous muscles of a new-born calf. The degenerative changes already proceeding in these muscles were also found in the sterno-mastoid muscles, but not in the muscle which had undergone ischæmic paralysis and atrophy as a result of a fracture. In three of the adolescent patients these degenerative changes seemed to have come to a certain standstill, the muscles having been converted over an extensive area into firm, fibrous tissue. Only here and there, at the junction of muscle with fibrous tissue, could a soft connective tissue be seen in which a few necrotic fragments of muscle were imprisoned. In all the other cases the process still seemed to be in activity, islands of degenerating muscle being surrounded by actively proliferating connective tissue. This condition was found even in the eight-months old patient, and it was not least marked in the oldest patient. These changes were the same whether the torticollis had begun early or comparatively late in life. Prof. Krogius dismisses as improbable that this formation of connective tissue is merely a secondary phenomenon following destruction of muscle, for he has seen connective tissue proliferation starting in the perimysium at a stage when the muscle cells still completely retained their normal structure. In further support of his views he notes that torticollis may be associated with other deformities of endogenous origin such as hare-lip, congenital absence of muscles, syndactylism, polydactylism, and malformations of the reproductive system. The fact that the anterior portion of the trapezius not infrequently shows the same changes as those found in the sterno-mastoid is also a reason for regarding this condition as a developmental anomaly.

THE dinner in celebration of THE LANCET Centenary is to be held next Thursday, 7.30 P.M. for 8 P.M., at the Victoria Hotel, Northumberland-avenue, Sir Donald MacAlister, President of the General Medical Council, presiding.

Prof. Strandberg, of Copenhagen, is to deliver at the Royal Society of Medicine on Monday, Dec. 3rd, at 5 P.M., a lecture on the treatment of tuberculosis of the nose and throat by means of light baths.

THE next session of the General Medical Council will commence at 2 P.M. on Tuesday, Nov. 27th, when Sir Donald MacAlister, the President, will deliver an address. The Council will continue to sit from day to day until the termination of their business.

RONTGEN SOCIETY.—A general meeting will be held on Tuesday, Dec. 4th, at 8.15 P.M., in the British Institute of Radiology, 32, Welbeck-street, London, W., when a paper on Modern Radiographical Technique will be read by Dr. L. G. Heilbron, of Amsterdam.

In order to commemorate the work of the late Prof. Röntgen, the Council of the Society, at a meeting held on Oct. 25th, agreed that an annual award of £10 (or the equivalent in books or apparatus, at the option of the recipient) shall be presented to that member of the Rontgen Society whose contributions during the session, relating to the science or practice of medical or general radiology are, in the opinion of the Council, of sufficient distinction. In the event of two or more collaborating, the award shall be shared equally between them. The award has reference to papers or demonstrations, read or shown for the first time and before the Society, relating to radiology in all its aspects, and will not be made if, in the opinion of the Council, no contribution of sufficient merit has been forthcoming during the session.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

XLVI.—TREATMENT OF VARICOSE VEINS.

VARICOSE veins is a condition of considerable importance partly on account of its frequency and partly on account of the severe and disabling complications, such as ulceration, thrombosis, and chronic œdema, which are likely to occur in late stages of the disease. In most of these advanced cases curative treatment is impossible and palliative measures afford only a limited degree of relief. Our aim should, therefore, be to treat these cases in the earlier stages, while the patients are young and the trouble localised.

Our knowledge of the cause of varicose veins is not altogether satisfactory. The trouble is common in all classes, affecting both men and women, and in those following both active and sedentary occupations. It is generally agreed that the essential factor is an increase of pressure in the veins occasionally due to some easily recognised obstruction to the flow of blood. Such are pregnancy, pressure by tumours, abnormal communications between arteries and veins, and occasionally thrombosis of the femoral vein or a fracture of the pelvis. In another group varicosity is vaguely attributed to some congenital cause; rarely it is part of a definite angeioma. In another numerous group the trouble is attributed to an habitually overloaded colon, "heart disease," and occupation. It is necessary to consider where and how the obstruction occurs, in order that it may be treated before the valves become incompetent.

I believe, for reasons I have set out in detail elsewhere,[1] that in a considerable proportion of cases, especially where the patient follows an occupation requiring prolonged standing, the real cause of the trouble is an obstruction to the flow of blood near the termination of the internal saphenous vein, where it passes through the saphenous opening, crossing the well-defined cornu of the falciform edge, and leaves the subcutaneous tissues to join the more deeply placed and better supported femoral vein. This is a relationship where some additional factor may easily produce a slight but definite degree of obstruction which, acting over long periods, may produce far-reaching results. This additional factor is, I suggest, increase in the tension of the fascia lata. In the sitting or recumbent positions the fascia lata is relaxed. In the erect position it is tense. If the fascia lata is tense so also must be the falciform edge with its superior and inferior cornua, the latter between the superficial and deep venous trunks. The obstruction thus produced need not be complete; a slight degree of interference acting over a long time will be sufficient to overfill the veins, to cause thickening and dilatation and eventually varicosity. A vicious circle will also be started, for the overfull vein will be heavier, and this will tend to cause a dragging which will aggravate and increase the obstruction when the fascia is tense. The effects of the obstruction need not appear in the upper part of the vein; indeed, one would expect the effect of the pressure to extend downwards beyond the actual obstruction and for the effects to become manifest first in the distant tributaries. There is another possible cause of obstruction at the termination of the internal saphenous vein, where it is joined by the superficial epigastric, the superficial circumflex iliac, and the external pudic veins. Though usually regarded as unimportant, these veins are often surprisingly large, and the flow of blood in them, being from above downwards, is in direct opposition to the flow of blood in the internal saphenous. This cause of obstruction, though probably negligible in the sitting or recumbent position, may be of considerable importance in the erect position when the fascia lata is tense.

[1] Guy's Hospital Reports, vol. iii., fourth series, No. 2.

I do not wish to suggest that this is the only cause of varicose veins. I have no doubt that the others mentioned do exist, that they are often of importance, and that they must be taken into account when deciding upon treatment. It is possible, too, that obstruction may sometimes occur in a somewhat similar fashion in the external saphenous vein where it pierces the deep fascia, or in other situations where there are communications between deep and superficial veins.

Operative Treatment.

I have long thought that in the operative treatment of varicose veins it is a wrong principle to excise or obliterate the main trunks of venous return, especially the internal saphenous. The blood has to return from the superficial tissues of the leg somehow, and, if the main trunk is removed a great strain must of necessity be thrown on the smaller vessels, with the result that they become varicose. Even though all the affected veins are excised, only too often fresh veins will be found later to be varicose, sometimes actually beneath the operation scars, while occasionally a large fresh channel will be found to have developed in the course of the excised internal saphenous.

Trendelenburg's operation, in which an inch or two of the internal saphenous is excised immediately below the saphenous opening, is now, I believe, less frequently employed than formerly. It is indicated only where there is definite evidence of a long column of blood, unsupported by valves, extending from the abdomen to the lower part of the leg. In such cases the advantage to be derived by relief from this extensive back pressure may outweigh the disadvantages following on obliteration of the main channel of venous return. Trendelenburg's operation is usually combined with removal of the diseased veins; and it may be taken as a generally accepted fact that if a vein is so seriously affected that operative treatment is required, excision by one of the methods in common use is the only effective way of dealing with it, though this should, if possible, be combined with some measures to remove the cause.

The operative treatment of varicose veins should thus have three objects: (1) To excise those veins or groups of veins which are causing symptoms; (2) to remove the cause of the trouble; and (3) to carry out the above and at the same time preserve the internal saphenous, the main channel for the drainage of the superficial veins of the lower extremity.

Indications for Operative Treatment.

Operative treatment must not be carried out indiscriminately, but only on carefully selected cases, generally young healthy adults. In female patients the pelvic organs must be healthy and the possibility of pregnancy must be remembered. The most suitable cases are those where the trouble is localised to one or more veins or groups of veins. Chronic swelling of the leg, due to solid œdema, with probable blocking of the deep veins, is a contra-indication.

There are several well-known methods of excising the diseased veins. Personally I prefer to dissect out the veins through fairly large incisions rather than to employ methods involving the evulsion of long portions of vein through small incisions. In those cases where it is considered that the varicosity is caused by obstruction at the saphenous opening the plan which I have adopted is the following:—

A New Operation.

The course of the internal saphenous vein is carefully verified. Probably the thickened vein can be felt, but to avoid any uncertainty it should be marked out beforehand. The hip being slightly everted an incision about 4 or 5 inches in length is made just to one side of the vein which is cleared, first to the inner and then to the outer side, so that the deep fascia is exposed for the whole length of the incision. By a little dissection the termination of the vein and the margins of the saphenous opening are defined. The superficial tributaries are then identified and each is divided between two ligatures. The deep aspect of the saphenous vein is now separated from the deep fascia; a director is slipped under the inferior cornu of the saphenous opening and the fascia lata is divided along this. In early cases, where the vein is simply overfull, division of the fascia for about an inch is all that is required, and the wound may then be closed. In more advanced cases, where the wall of the vein is thickened, the fascia may be divided to the lower end of the wound—i.e., for a distance of 4 or 5 inches. The margins of the incision in the fascia are dissected slightly back and the vein is displaced from the superficial tissues into the bed which is thus prepared for it. The fascia is now sewn over the vein by a continuous suture of fine catgut which commences above at the saphenous opening and extends to the lower end of the incision in the fascia, care being taken to leave the lower half inch or so in order to avoid constriction of the vein. In these manipulations the vein is treated with the utmost gentleness. It should not be dissected too bare; indeed, it is a good thing to see a little of the superficial fat adherent to it. It should not be seized by dissecting forceps, but may be conveniently manipulated by using an aneurysm needle as a retractor. Small tributaries may be ligatured and divided, but it is desirable to preserve a large branch on the outer side and probably a smaller one on the inner side, each situated a small distance below the saphenous opening. When suturing the fascia over the vein a small lateral slit may be made in the fascial margin in order to avoid constriction as they join the main trunk. As a general rule, the upper few inches of the vein only need be embedded, and in a great many cases simple division of the margin of the saphenous opening is all that is called for.

When the lower half of the internal saphenous in the thigh is tortuous and varicose the affected portion should be excised, and the upper half may then be treated in the way described; it is important under these circumstances to preserve the lateral tributaries. When the whole vein is varicose transplantation beneath the fascia is contra-indicated; nor should tortuous varicose veins be so treated. In such cases, if operation is decided upon, excision of the vein should be carried out, or Trendelenburg's operation; in any case the prognosis as regards recurrence is not hopeful.

Special Indications for this Operation.

This operation should not be performed indiscriminately, but only on carefully selected cases. In addition to the well-recognised rules for excision the following special indications must be present.

1. The patient must be a young adult, or, if of middle age, the general condition must be satisfactory.

2. The varicosity must affect the lower part of the internal saphenous and its tributaries. Both legs may be affected, but whether unilateral or bilateral the disease must not be generalised.

3. Other causes for the condition must be absent, and there must be some evidence to suggest that there is obstruction at the saphenous opening. This is usually indicated by a thickened and dilated condition of the saphenous, which, however, is not tortuous and varicose. The over-distended vein will readily be felt and probably seen when the patient is examined in the erect position. This I believe to be an early condition, in which excision and removal of the cause offers a good prospect of cure; if it is allowed to extend the condition will become unsuitable for operative treatment. I have performed the operation in about 20 cases, and I believe that the results are better than when excision is practised alone.

Non-Operative Treatment.

In cases unsuitable for operation some form of support, either an elastic stocking or a bandage, will be necessary, in addition to any hygienic or general treatment which may be indicated. Elastic stockings should be made to measure and require frequent renewal. On this account bandages, either elastic crepe or elastic web, are more often employed. The bandage should be put on in the recumbent position, the leg having been raised so as to empty the veins as much as possible before its application.

PHILIP TURNER, M.S. Lond., F.R.C.S. Eng.,
Surgeon, Guy's Hospital.

Public Health Services.

THE WORKING OF THE LEICESTER PUBLIC MEDICAL SERVICE.

THE ability of doctors to run a public medical service on a large scale has been the subject of recent discussion, but the acceptance by the insurance medical service of the Minister of Health's offer renders further discussion at present largely of an academic nature. The question of the extension of medical benefit to the wives and children of insured persons is, however, likely to be raised by the Royal Commission when it meets. Such a service on a small scale, outside the present range of the National Insurance Acts, is now actually in being, and we are indebted for the following description of the Leicester Public Medical Service to Dr. W. Moffat Holmes, honorary secretary, Leicester Subdivision of the Union of Medical Practitioners and Leicester Public Health Service. Dr. Holmes says:—

The Leicester Public Medical Service is worked under the ægis of the Leicester Subdivision of the Union of Medical Practitioners, so that it is advisable to say something also about the parent body, which is a registered trades union and of which one of the objects is "the promotion of an equitable system or systems of medical service regulating the medical attendance and treatment by members of the Union and the provision by them of medicines for persons unable to pay the ordinary medical charges in the usual manner." In accordance with the foregoing quotation, the Leicester Public Medical Service was inaugurated in January, 1913. There are many advantages accruing to members of the Union, and membership thereof gives to a practitioner the right to have his name entered on the panel of medical practitioners prepared to practise in connexion with the Public Medical Service.

When the work of the Leicester Provident Dispensary came to an end on the introduction of the National Health Insurance Act a large section of the population of Leicester (chiefly women and children) who were members of that institution, unable in most instances to pay ordinary medical fees, were left unprovided for in the matter of medical attendance. In these circumstances the medical profession in Leicester introduced the Public Medical Service, through which dependents of insured persons, and others, are enabled to obtain medical attendance when necessary, by means of small periodical payments.

1. *Subscriptions.*—Uninsured persons over 14 years of age, entered alone on card, pay 3*d.* per week, but a man and wife pay 5*d.* per week. On cards where a child or children under 14 years of age are entered on a card with an adult, the adult pays 2½*d.* per week, the first child 2*d.* per week, the second child 1½*d.* per week, and the third and fourth 1*d.* each per week, not more than four children being charged for in one family. On cards where no adult is entered the first child pays 2½*d.* per week, the second 1½*d.* per week, and the third and fourth 1*d.* each per week. The entrance fee is 1*s.*, the card costs 3*d.* Persons in receipt of the Old Age Pension, or receiving assistance from the guardians, are charged 1*d.* per week less than the ordinary rates. This payment entitles them after the expiration of one month from date of application for membership to ordinary medical attendance and medicine, dressings, &c., and if they are unable to go to the doctor's surgery or consulting room, the doctor visits them at their own homes. Patients desiring to be visited at their own homes must send their messages to the doctor's surgery before 10 o'clock in the morning to ensure attendance on that day, otherwise they are liable to be charged a fee. Night calls—i.e., visits made between 8 P.M. and 9 A.M. in response to calls received within these hours—are also charged for. This arrangement was made chiefly to deter subscribers from sending for the doctor unnecessarily, with the result that, comparatively speaking, very few night calls are received. Persons actually ill at time of application for membership pay a sick fee of 10*s.* in addition to the ordinary rates, which entitles them to immediate attendance. The weekly subscriptions have been fixed at these low rates because the subscribers receive no aid from the State, and because the medical men are desirous of continuing the humane and charitable work associated with the profession in regard to deserving cases. Moreover, it was found expedient to arrange a graduated scale of contributions in cases where there are a number of children in a family, because the experience in Leicester has proved that it is, generally speaking, the lowest paid labouring classes who have the largest families, and who are least able to pay. In other circumstances the subscriptions would be higher.

2. *Control.*—The Public Medical Service in Leicester is under the control of a board of management consisting entirely of doctors, elected annually, with various committees. All the doctors in Leicester are associated with the Public Medical Service in either an honorary or an acting capacity.

3. *Premises, Staff, &c.*—There is a central dispensary and offices, and eight branch dispensaries in various parts of the town. At the central dispensary, and at five of the branch dispensaries, there are consulting rooms. The doctors do not dispense, prescriptions being made up at the central dispensary and branches by qualified dispensers. The staff consists of a manager, chief dispenser, dispensers, collectors, clerks, porter, and caretakers. The profession in Leicester have been very fortunate in having, from the inception of the scheme, the services of the present manager, Mr. T. W. Lawrence, whose administrative ability and knowledge of medical matters generally have been of inestimable value.

4. *Drugs.*—The drugs, chemicals, &c., required at the branch dispensaries are supplied from the central dispensary, to which is attached a steam laboratory. A pharmacopœia containing over 150 formulæ, published by the Public Medical Service, facilitates both prescribing and dispensing, and is recognised under the National Health Insurance Act.

5. *Change of Doctor.*—Members have choice of doctor from a panel of more than 60 doctors, and are allowed to change doctor quarterly, or more frequently in the event of removal to another part of the town. All members are able to consult the doctor of their choice at his surgery, and in several cases at the consulting rooms of the Public Medical Service in addition. Each doctor has submitted to him the names and addresses of applicants for admission to the Service who desire to be placed on his list, and he has the right to accept or refuse.

6. *Specialist Treatment.*—Members have the advantage of specialist treatment for eye, nose, ear, and throat on payment of very moderate fees, and dental treatment is also arranged for.

7. *Friendly Society Arrangements.*—As all the societies in Leicester making arrangements on contract lines for medical treatment of their uninsured members do so through the Public Medical Service, it is possible to offer a choice of arrangements to the members. The large majority favour the arrangement whereby medicines can be obtained at the central dispensary and branches. Members of another section can get their prescriptions dispensed at the pharmacists'. Members of the friendly societies can obtain their medicines at the dispensary of the Medical Association attached to their societies. The members of the various sections of the Public Medical Service have free choice from the same panel of doctors.

8. *Complaints Committee.*—At the inception of the Service in Leicester a complaints committee was set up, consisting of four representatives of the friendly societies, four representatives of the medical profession, of whom two should not be "acting members" of the Service, with an independent chairman, to investigate any complaints that might be made by members. Were any proof needed of the satisfactory nature of the attendance given to members of the Public Medical Service, it is found in the fact that the committee has never had occasion to meet.

9. *Philanthropic Arrangements.*—The Public Medical Service gives free medical treatment to members of the Institution for the Welfare of the Blind, the Wycliffe Society, the Cripples' Guild, and the Home for Feeble-Minded Girls.

10. *Dispensing for Outdoor Sick Poor.*—The Public Medical Service has since Jan. 1st, 1913, by arrangement with the board of guardians, approved by the Local Government Board, dispensed the necessary medicines for the outdoor sick poor of Leicester, and the satisfactory nature of the arrangement is proved by the fact that not a single complaint has been made by the guardians, and that the Local Government Board has approved of the arrangement being renewed year by year.

11. *School Clinic.*—The Public Medical Service, by arrangement with the Education Committee, provides accommodation for the dental and other treatment of school-children.

12. *Regional Medical Officer.*—Accommodation is also provided at the central dispensary for the regional medical officer, by arrangement with the Ministry of Health.

It will be readily perceived that the services rendered, and the accommodation provided, as set forth in the three preceding paragraphs, are a source of income.

13. *Statistics.*—The successful nature of the work as a whole is indicated by the following figures: the number of uninsured

members exceeds 40,000; prescriptions dispensed annually, number about 195,000. This result has been achieved on purely voluntary lines, no canvassing by collectors being allowed. The collectors are paid by salary and have no commission.

14. *Hospital Accommodation.*—Adjacent to the central dispensary, and under its own separate management, is the beautifully fitted Faire Hospital of three wards, each containing nine beds. This hospital, which is a model of its kind, takes its name from Mr. John E. Faire, J.P., of this city, who was primarily responsible for the hospital being built, and has done such great work for it since its inception. In this hospital, largely owing to Mr. Faire's generosity and foresight, Leicester possesses a very valuable institution. There are two operating theatres, electric lifts, &c., and medical and surgical cases are received at certain fixed charges for nursing and maintenance. Patients can be attended by their own doctor, and the fee for operation or attendance is mutually arranged between doctor and patient. Also adjoining the central dispensary is the Leicester and Leicestershire Maternity Hospital. The Public Medical Service supplies to both hospitals drugs, chemicals, dressings, &c., and to the latter steam for heating. The work of the Leicester Public Medical Service is quite distinct from the medical service of the National Health Insurance Act.

The Insurance Committee has no connexion whatever with the Public Medical Service, *nor is there lay control of any kind.* Furthermore, the following points in connexion with the work of the P.M.S. may be emphasised: (*a*) No outside interference; (*b*) no records to be kept; (*c*) no irksome regulations in connexion with certificates or any other matter.

The organisation of the Public Medical Service in Leicester is capable of expansion to almost any extent, without any violent upheaval, and should the necessity arise for making other provision for medical treatment of the persons who now receive their medical benefit under the National Health Insurance Act, the Public Medical Service could cope with the situation quite readily. Moreover, the Service is a satisfactory one and acceptable to the subscribers generally. Indeed, it is spoken very highly of, not only by the patients, but by influential men connected with the friendly societies in Leicester, and by independent gentlemen who have made inquiries amongst the working classes.

The Leicester Subdivision of the Union of Medical Practitioners.

For the last five years a scheme for collective locum-tenencies during holidays or sickness, devised by Dr. E. Lewis Lilley, has been successfully carried out. As illustrating the working of this scheme, during the period from April 1st to Sept. 30th, 1922, 17 doctors took advantage of the scheme and contributed £201 to the pool. The expenses amounted to £5 9*s.* 8*d.*, being cost of cards, posters, stationery, &c., leaving £195 10*s.* 4*d.* for distribution amongst the practitioners who attended patients under the scheme.

Financial.—It may be of interest to the profession to know that the practitioners on the panel in Leicester agreed, almost unanimously, to a levy being made annually of 1*d.* per annum for each insured person on their lists. This enabled the Committee in the year 1922 from the fund thus created—

(*a*) To meet the expenses of the Leicester Subdivision of the Union.

(*b*) To defray the expenses of the Panel Committee.

(*c*) To contribute £185 to the National Insurance Defence Trust.

(*d*) To provide £35 for the medical representation in Parliament Fund.

(*e*) To raise the sum of more than £100 for medical and allied charities, of which £50 was forwarded to the Royal Medical Benevolent Fund, £5 5*s.* to the fund for the relief of Russian doctors, and the remainder distributed locally.

Members of the Union can effect insurances on very advantageous terms, and the solicitors to the Union undertake for members the recovery of debts, on payment of a moderate commission. Members of the Union are also entitled to free legal advice in certain circumstances.

Other Details.—The Central Building, East Bond-street, Leicester, affords facilities for arrangements of a collateral nature being made. Hence, in addition to the activities of the Public Medical Service, the meetings of the Local Medical and Panel Committees, and of the Leicester subdivision of the Union of Medical Practitioners, are held there, the personnel of these committees being practically identical with the board of management of the P.M.S. The meetings of the Leicester Medical Society are held in this building and the library of the Society is housed there, as also is the Leicester Medical Club. It will thus be seen that the Central Building of the P.M.S. is the centre of medical activity in Leicester, and with the various interests being so interwoven and linked up, it has tended to make the medical profession in this city a progressive and united force, and has greatly increased good fellowship among them.

In my opinion, the inauguration of a system of public medical service by the medical profession throughout the country is a step that should be taken, and taken promptly. Not only does it provide facilities for women and children of the working classes to ensure medical attendance by means of small periodical payments, but it is a system entirely free from outside interference, and the central organisation is exceedingly useful in dealing with the mass of detail now inseparably associated with matters pertaining to the medical profession. The board of management are anxious that their experience of the last ten years shall be made available to the whole of the profession. With that end in view they will be pleased to receive members of the profession at any time, but extend a special invitation for Friday, Nov. 30th, when the officers of the Service will be in attendance and will be glad to welcome all who can make it convenient to attend.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

THE following table gives some of the principal health statistics of four counties for 1922:—

Name of county.	Estimated population (R.-G.).	Birth-rate.	Death-rates per 1000 of the population.				Death-rates per 1000 births.		
			All causes.	Tuberculosis.	Cancer.	Respiratory with influenza.	Infant mortality		Maternal mort. in childbirth.
							Legit.	Illegit.	
Derbyshire ..	595,980	22·0	10·8	0·8	1·0	2·0	70	117	4·0
Essex	917,414	18·6	11·1	0·9	1·2	2·2	51	116	3·2
Isle of Ely ..	74,653	21·0	12·0	0·7	1·4	2·1	57	131	3·8
Dumbartonshire	55,343	22·3	12·7	1·0	1·1	3·1	(80)*		5·7

* The figure in brackets gives the undivided infant mortality rate.

Derbyshire.

Dr. Sidney Barwise reports that in three areas in the county a whole-time medical officer of health is employed by the local sanitary authorities, who also carries out certain duties under the county council, and that the Ministry of Health have suggested that the county council might confer with the local sanitary authorities with a view to the extension of this system as opportunity offers. Dr. Barwise thinks that if this policy is agreed upon, the sanitary administration of the county in the course of 10 or 15 years, without any sudden change, will be placed upon a much more efficient basis. Speaking of the neglect of vaccination, Dr. Barwise thinks we ought to have powers for the compulsory vaccination of all contacts. He also makes the suggestion that a scheme might be devised by which the cost of treating cases of small-pox unprotected by vaccination would be borne by the unvaccinated. During the year some thousands of circulars have been distributed giving information on the subject of cancer. Dr. Barwise attributes the fall in infant mortality to the increase of breast-feeding, better artificial feeding, the sterilisation of milk, and the substitution of dried milk for carbohydrate foods.

The cost of the Ashbourne maternity home was £2 2s. per week and of the Ripley home £3 7s., while the average of 55 maternity homes receiving Government grants was £4 14s. 9d. Dr. Barwise thinks more provision should be made in these homes for paying patients. Midwives attended at the birth of 10,168 infants, leaving 2927 presumably attended by medical practitioners. Midwives sent for medical help in 1229 cases. There were 30 cases of puerperal fever with 17 deaths, and of the deaths 7 occurred in the practice of midwives. In one case of post-partum hæmorrhage no midwife or doctor had been engaged, and the patient died before a doctor could attend. Three deaths took place after Cæsarean section in hospital. Of the eight deaths from eclampsia six might be regarded as preventable. Dr. Barwise thinks the coöperation of the medical profession in an investigation into maternal mortality should be invited and that the council should pay for a detailed report on the circumstances of every such death.

A full review is given of the tuberculosis problem. Dr. Barwise sets out to consider in what direction expenditure in these days of restriction will give the best value, and concludes that there is nothing to be undone, but that Derbyshire ought to proceed steadily to the completion of its scheme by the provision of a pavilion for advanced female cases at Walton and the development of the Bretby estate both as an open-air residential school and a sanatorium for the pre-tuberculous type of child with both bone and joint and lung disease. A letter from the Ministry, dated March 23rd, 1923, is quoted praising the efficiency of the Derbyshire scheme and pointing out the need for these additions thereto. Dr. Barwise thinks that much in the way of the building up of resistance may be achieved by the encouragement of gardens and allotments in which people can grow their own vegetables, and by the provision of open-air schools, both day and residential. Dr. Barwise appears to fear that if milk is made tubercle-safe, we shall get rid of bovine tuberculosis at the expense of losing some of our immunity to human tuberculosis. He considers that after three years of age the child should take its risk in acquiring immunity through a tuberculous gland by being given small doses of the ordinary raw milk of commerce, but never from the milk of a single cow. This experiment would have its dangers, and, on the whole, we think that most sanitarians, under present circumstances, will be inclined to accept Louis Cobbett's pronouncement that the harm done by the bovine bacillus is certain, the benefit it confers is problematical.

As regards the prevention of massive infection, Dr. Barwise comments on the prohibitive cost of segregating advanced consumptives, and instances a case discharged two years ago who cost the county £600 during his five years' isolation and is still alive though unable to work. He thinks that more might be done by home supervision in such cases, following a short educational course in an institution. He also thinks that when the advanced case is the mother, it would be better and cheaper to board out the children with foster parents in the county than to segregate the mother. Attention is drawn to the fact that there are 18,000 empty beds in Poor-law infirmaries available for the stage in which no treatment is required other than a clean bed and food. The examination of the sputum of children by the Ellerman and Erlandsen concentration method continues to be of great value. Good results are reported from quartz-lamp treatment (Bach technique), especially in the case of tuberculous glands and lupus. Dr. Barwise thinks a charge should be made to those who can afford to pay for treatment at the V.D. clinics, and he also emphasises the fact that in a county area the treatment of gonorrhœa can only be satisfactorily carried out by general practitioners.

The resolutions of the Mental Deficiency Act and Mental Hospital Committees advocating the sterilisation of mental defectives convicted of sexual offences and the voluntary sterilisation of unimprovable male defectives are quoted with approval. Under "Water Supply," it is pointed out that the sanitary authorities in the watershed of the Trent have not taken sufficient advantage of the right to take water from the Derwent Valley water mains secured for them by the county council. Progress is reported in the matter of sewage disposal schemes. As regards the milk question, Dr. Barwise thinks we ought to strive for clean tubercle-free raw milk delivered in bottles rather than content ourselves with the pasteurised product.

Essex.

Dr. W. A. Bullough reports that the London County Council have continued the arrangement by which the services of Dr. W. McC. Wanklyn are made available for the help of any medical officer of health in the administrative county in the event of suspected small-pox. During 1922 five such applications were made, and in each case Dr. Wanklyn was satisfied that the disease was not small-pox. The tipping of refuse on the Essex marshes along the northern bank of the Thames has again come under consideration. A conference of representatives of the Ministry of Health, the London County Council, the City Corporation, and the Metropolitan Borough Councils was held in June, and it was pointed out that, owing to the need for economy, tipping must continue for a long time, and as a result the Ministry have drawn up a list of precautions for abating and preventing nuisances arising from refuse-tips. An unusual nuisance, apparently caused by oil refining, has given rise to many complaints in south-east Essex. The nuisance consists of offensive smells with flavours resembling those of benzine and garlic. The sanitary authorities chiefly affected are those of the borough of Southend-on-Sea and the rural districts of Rochford and Orsett. Consultations have been held with the Ministry and proceedings suggested under the nuisances clauses of the 1875 Public Health Act. Some improvement has taken place, but complaints have again arisen.

The number of persons in the county living more than two to a room was less favourable at the 1921 Census than it was in 1911; 70 per cent. of the families have separate houses, 26 per cent. live two in a house, and 4 per cent. live three or more in a house. In the administrative county 4407 houses were erected in 1921, 2584 by local sanitary authorities and 1823 by private enterprise. Dr. Bullough has nothing but praise for the council houses erected in Essex. The only drawback is that the rents are beyond the means of the tenants, who are often compelled to sublet a portion of the house. On June 15th a conference was held, on the invitation of the Ministry of Health, for the purpose of forming a joint committee for town-planning the region on the northern bank of the Thames extending from Shoeburyness to East and West Ham. Unless steps are taken Dr. Bullough points out that houses will be erected on low-lying unsuitable sites.

The County Council and the County Nursing Association continue to work in the closest coöperation. Dr. Bullough looks forward to the time when the whole of the rural parishes will be served by district nurse-midwives. Owing to the need for economy, the Association is only able to establish five new associations per annum. There are now 126 district nursing associations affiliated to the County Association, and of these 113 participate in the County Council's combined nursing scheme. Dr. Bullough regards the nurse-midwives as one of the most important factors in promoting the health and well-being of the community. In addition to their work as district nurses and midwives, they now coöperate with the county health visitors, by following up defects amongst school children, by carrying out tuberculosis after-care, and maternity and child welfare work, &c. In the rural parts of the county, says Dr. Bullough, there is no one more fitted to carry out the task of improving the individual's environment and knowledge of the laws of hygiene and health than the district nurse-midwife.

Isle of Ely.

Dr. J. Pixton Walker, who succeeded Dr. Percy Moxey as county medical officer of health on Oct. 31st, 1922, presents his first annual report. He states that the year has been one of uneventful progress. The Isle

of Ely does not support any general or special hospitals, and in such circumstances the tuberculosis clinics at Ely, March, and Wisbech have continued to do good work and fulfil a long-needed want. During the year 60 patients were sent to sanatoria outside the county. Dr. Walker draws attention to the extensive use of goats' milk in the Isle and the advantage that goats are rarely affected with tuberculosis. Addenbrooke's Hospital, Cambridge, is now the only available V.D. treatment centre since the clinic at Peterborough was closed.

Dumbartonshire.

In the absence, through illness, of Dr. Thomas Lauder Thomson, Dr. Alexander Johnstone presents the annual report, and states that the county has been free from any serious outbreak of infectious disease during 1922. No further progress has been made towards the erection of a county sanatorium. In the western district the beds set aside for tuberculosis at the Dumbarton Joint Hospital have been constantly occupied, but there is difficulty in persuading patients to make use of the 20 beds set aside by the Dumbarton Poor-House Combination in the poor-house grounds. The need for an after-care organisation is pointed out. Better accommodation is required for the maternity and child welfare centre serving the Vale of Leven. There were two outbreaks of foot and mouth disease in the eastern district. In one case the milk was all made into butter, and the point arose as to whether under the existing law a local authority has the power to suspend a supply of butter made from the milk of infected cows.

SCHOOL MEDICAL SERVICE.

Dumfriesshire.

Of a school roll of 12,711, 5089 children were examined in the code groups, and 4063 special examinations were made. Of those examined in the code groups only 9·33 per cent. were free from defect. Nearly 40 per cent. showed nutrition below average, although only two could be classed as "bad" nutrition; 38 had discharging ears, 16 were markedly deaf, and 110 were found to be dull and backward. Treatment is so far confined to visual defect and dental decay. Of 1942 children dentally inspected 55 per cent. were found to require treatment, and Dr. John Ritchie reports that 62 per cent. of these availed themselves of the school dentist's services.

Stockport.

The school population here is 16,700, and during 1922 the number of children inspected in the routine groups was 5680. Of these 33·6 per cent. were found to require actual medical treatment. The total number inspected by the school dentist was 2500, of whom 2072 received treatment. The staff consists of the medical officer of health, Dr. W. H. Rowell, who is also medical officer to the Education Committee, a school medical officer, an assistant school medical officer, and three nurses. There is a central school clinic where work goes on all day, and a branch clinic is open one afternoon a week. The attendances at the clinics for the year amounted to 10,772, representing 2772 children; 1631 of these suffered from skin affections. There are 125 child cripples in this county borough, 27 of these being crippled by tuberculosis, and the majority of the remainder by infantile paralysis. When seen by the school doctor they have usually reached a stage where treatment is not satisfactory. Twelve stammering children were treated by a course lasting six weeks. A "following up" class was held each Saturday morning, of which a large proportion of the children took advantage. Of the 12, 7 were considered cured and 5 improved.

St. Helens.

Of an average roll of 18,194 elementary school children 10,162 were medically examined, and of these 38 per cent. showed defects. By the end of 1922 64 per cent. had received treatment. The medical officer of health, Dr. F. Hauxwell, is also the school medical officer, and the three assistant medical officers of health are also assistant school medical officers, their time being so divided that the school medical service has the equivalent of one whole-time officer. Dental inspection and treatment are carried out by a whole-time dentist who gives five-sixths of his time to school work and the remaining sixth to tuberculous patients. The town is divided into 14 districts, each having a health visitor, who is responsible for the maternity and child welfare work, tuberculosis, infectious diseases, and school nursing. In this way she gets to know family conditions well, and is therefore of great assistance to the school doctor.

MENTAL HOSPITAL REPORTS.

THE annual report of the *Glamorgan County Mental Hospital, Bridgend*, an exceptionally large institution accommodating nearly 1800 patients and possessing five medical officers, unfortunately gives an impression of considerable friction with the local authorities in regard to electric and water supply, and in regard to the report of a committee which apparently made unfounded criticisms as to the administration of the hospital. The commissioner's report, which is reproduced, suggests a number of possible improvements: The clothing of the women is unattractive, an insufficient number of night garments is provided, and some patients are obliged to undress in the day-rooms; no patients are provided with slippers. The methods of dealing with soiled linen are criticised, and the necessity of bacteriological examination in cases of diarrhœa is emphasised. Money allowances should be made to patients going on leave. A regrettably small proportion of the nursing staff enter for the examinations of the Medico-Psychological Association. The improvement of classification and accommodation is being considered. The difficulties of administering an institution of such unusual size as this are very great, and under different economic conditions it would, no doubt, be reconstructed on a different plan.

The annual report of the *Coppice Mental Hospital, Nottingham*, which is largely maintained by voluntary contributions, shows a satisfactory financial position at the close of the year. The number of recoveries recorded has only once been exceeded in the long history of this hospital, and the management have reason to be satisfied with a successful year's work.

No feature of special interest is to be noted in the annual report of the *Roxburgh District Asylum*. Certain structural alterations have been made which will afford better accommodation for some of the female patients. A somewhat grandiloquent effect is achieved in the chairman's report by recording the average number of patients under various heads to three points of decimals; the medical superintendent, in reproducing the same figures, contents himself with one point only.

The most important feature in the report of the inspector of *Hospitals for the Insane, Queensland*, is no more than a prophecy. There is every prospect that the increase in the general population will necessitate the building of another asylum, and it is urged that the plans and site should be brought under consideration without delay. It is interesting to note that a thorough investigation showed extensive hookworm infection in two of the asylums, stool examination being positive in no less than 477 cases.

ROYAL MICROSCOPICAL SOCIETY.—The section of the Society which has been formed to deal with the Industrial Applications of the Microscope will hold its next meeting at 20, Hanover-square, London, W., on Nov. 28th, at 7 P.M., when Mr. Conrad Beck will show a new projection microscope for measuring fine wires and fabrics to 1/50 000 inch, and Messrs. Adam Hilger, Ltd., will show Dr. Müller's X ray spectrograph for the examination of sub-microscopic crystalline structures. At 7.15 a lecture demonstration will be given by Mr. J. E. Barnard on the Characteristics of a Microscope for General and Special Purposes; the Tests for Mechanical Efficiency that should be Satisfied. At 7.45 there will be an inspection of exhibits, and at 8 o'clock communications will be read by Dr. Sidney H. Browning on the Application of the Microscope to Industrial Diseases and by Mr. Charles A. Newton on the Microscope in the Examination of Condensed Milk, Sir Kenneth Goadby presiding.

Special Articles.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

THE EDINBURGH OBSTETRICAL SOCIETY.

AT a meeting of this Society, held on Nov. 14th, Dr. J. Lamond Lackie, the retiring President, delivered his valedictory address in which he reviewed recent advances made in obstetrics. Progress in this field, he said, was in many directions very striking but in others disappointing. Among the unsolved problems of obstetrics, none called more urgently for solution than that of the toxæmias of pregnancy. Round this there had accumulated a large literature, but unfortunately none of the theories was based on such incontrovertible evidence as to afford a reliable basis for prophylaxis and treatment.

The Toxæmias of Pregnancy.

Investigations of recent years pointed to the placenta as the probable source of the toxin. In this connexion Dr. James Young, of the Society, had advanced the view that products of placental necrosis might cause the phenomena of eclampsia. Recent biochemical research on renal and hepatic function suggested that in eclampsia the metabolic factor was not of so great a significance as Watson and Harding had shown must be assigned to it in the earlier months. While this was so, the lowered incidence of eclampsia in war years, especially on the continent—probably as a result of a diet poor in protein—suggests that the dietetic factor was of first importance. The Dublin method of treatment, which was yielding good results, was based on this hypothesis. It was previously the routine in the maternity hospital to avoid morphia in eclampsia. Now it was administered to control the seizures. Many believed that veratrone (a preparation containing the equivalent of 15 mins. of tincture of veratrum to the c.cm.) was a far better remedy than morphia—it certainly had a remarkable effect in lowering blood pressure and as a depressant to the central nervous system. Care must, however, be exercised as in large doses its depressing effect on the heart might be alarming or even fatal. It had been shown by statistics that the cases which could be classified as severe might be expected to show a mortality five times as great as those classified as mild, no matter what method of delivery was employed. Also the figures showed that the cases in which there was less obstetric interference showed much the best results. With regard to hyperemesis and also the so-called physiological morning sickness, there were evidences of a disordered metabolism showing itself as a glycogenic disturbance in the maternal liver. Other subsidiary but important factors were the neurotic factor, which through the sympathetic nervous system acted on the glycogen stores of the liver, the intestinal intoxication factor, the dehydration factor, the reflex factor, and the patient's health at the time of conception. Cases were classified as mild, moderate, or severe, and treatment consisted in a protein-free diet with the administration of carbohydrate, and glucose in particular.

The Treatment of Hæmorrhage: Indications for Cæsarean Section.

Regarding hæmorrhages in later months of pregnancy, the most striking advance was in the treatment of some by Cæsarean section. The pathology of concealed accidental hæmorrhage had been carefully studied, and it was now known that in a severe case the damage to the uterine muscle might be so severe as to have disastrous consequences. For that reason, many held that in concealed accidental hæmorrhage the safest treatment was Cæsarean section followed by hysterectomy. Of late the tendency was to try to save the uterus. The most recent theory as to the cause of accidental hæmorrhage was that it was a mechanical one, of the nature of an obstruction of the venous return from the uterus. The treatment of placenta prævia by Cæsarean section was an innovation of the last 20 years and in some cases it was doubtless the best line of treatment. Generally, however, especially in multiparæ, bipolar podalic version was the most favoured treatment, but in a primipara with a rigid os Cæsarean section was the most satisfactory means of saving both mother and child. Pressure on the placental site by a Champetier de Ribes was advocated, as many infants might be saved if this means of controlling hæmorrhage were used instead of by pressure of the breech on the bleeding site. By this method there would be no interference with the child till the actual moment of delivery and perhaps not then. There was no more difficult task for an obstetrician than to determine the best management of a case of slightly contracted pelvis. High forceps were to be avoided except on rare occasions; indeed, it was thought that forceps had been used too frequently for all indications. The maternal and fœtal mortality from the high forceps operation was greater than properly chosen and properly timed Cæsarean section. In recent years Cæsarean section had become so safe that there was risk of the indications becoming too numerous, and many Cæsarean sections were undertaken without real justification. In eclampsia it had not proved successful, but in cases of heart disease complicating pregnancy and labour, even uncompensated cardiac disease, the results so far published were good. Also the patient could be sterilised at time of operation.

The technique of the operation varied with different operators, and the suture material was a subject of much debate, but the strength of the scar probably depended more on the absence of sepsis than on the material used. Pubiotomy was an old operation and had been revived more in other countries than in this. It was an operation to be adopted only when forceps had failed and conditions contra-indicated Cæsarean section. It ought to compete with craniotomy, which he hoped in the future would only be reserved for cases of hydrocephalus or where the child was already dead.

The Use of Drugs in Labour.

The most striking therapeutic agent that had been introduced into obstetrics was the extract of the posterior lobe of the pituitary gland. It was very effective when used to bring on labour about full time, but less so in the induction of premature labour. During labour its application had been much abused, and during the second stage its employment was fraught with great danger. Cases should be carefully chosen; if not, there was great danger of laceration of the parts and even of rupture of the uterus. As a stimulant to the uterine contraction in the third stage it was very useful. As regards the management of labour, a great advance had been the employment of morphia-scopolamine narcosis. The only deterrent to its general use was its alleged dangerous effect on the baby.

Advances in Gynæcology.

In gynæcology the pathology of pelvic tumours and other lesions were more completely understood, and the large part played by venereal diseases in the causation of gynæcological disorders was being more appreciated. No subject had been more discussed than suppurative salpingitis. Some believed in immediate operation, others in expectant treatment and interfering when acute symptoms had subsided and chronic tubal disease and ill-health demanded it. Intrinsic dysmenorrhœa was still a vexed question and the opinions as to its causation and treatment, medical and surgical, were very diverse. Prof. Blair Bell had pleaded for a more accurate study of the pathology of the condition and for a clearer definition of the various causes of the pain. Radiotherapy, both by X ray and radium or by both, had come rapidly to the front as a method of treating gynæcological cases. It should be regarded not as an

opponent of surgery, but as an alternative when operation seemed contra-indicated. Great benefit has been shown by its use in many varieties of gynæcological conditions.

With regard to endocrinology, it was well known that many conditions had as their basis some aberration in endocrine function and a great deal of work had been done with regard to it. In spite of that, the knowledge of the physiology of the glands of internal secretion was far from complete, therefore there was as yet no rational basis for organotherapy, which was largely empirical and often disappointing. With a fuller knowledge of the physiology of the pelvic organs conservative gynæcological surgery had come to be more practised. Ovarian tissue was less seldom sacrificed than formerly and conservative surgery of the Fallopian tubes more practised than formerly. It was less frequent to perform hysterectomy for uterine fibroids than previously was the case.

Dr. Lackie then welcomed his successor, Prof. B. P. Watson, to the presidential chair of the Society.

GLASGOW.

Gifts to Glasgow University.

The museum in the new zoological building of the University is to be enriched by a collection of British insects, presented by Mr. A. H. Bishop, of Glasgow, and his son. The collection includes a large number of mounted and labelled specimens, forming an almost complete set of British coleoptera and a representative set of lepidoptera, a large number of unset specimens, and many works on entomology. Prof. Graham Kerr points out the value of such a collection in view of the close inter-relation between medicine, economic zoology, and entomology. Prof. Bryce also intimates that Dr. Knight, of Queen's Park Higher Grade School, has presented to the department of anatomy "a valuable osteological preparation, a series of models of the brain, and 300 lantern slides of photomicrographs of the tissues and organs of the body."

Glasgow Hospital for Women.

The annual meeting of the subscribers to the Glasgow Hospital for Women was held on Nov. 12th. Outdoor consultations for the year numbered 4050, and there were 225 operations performed. The extraordinary revenue enabled the directors to meet a deficiency of £631 in the ordinary revenue, and to add £836 to the capital account. The hospital is intended for women, who, while unwilling to enter a public hospital, are nevertheless unable to meet the expense of a nursing home, and their subscriptions have given the hospital invaluable financial support during the past year.

Death of Dr. Archibald Sloan.

We regret to announce the death of Dr. Archibald Sloan, which occurred at his residence in Glasgow on Nov. 15th. Originally a teacher, after graduation Dr. Sloan built up a large practice in Glasgow, and was at one time casualty surgeon to the Northern Police Office and physician to the Glasgow Central Dispensary. Dr. Sloan was for many years a member of Glasgow School Board, and took an especial interest in the physical training of children, in school medical inspection, and in the feeding of necessitous children. He had been for the last 15 years medical officer to the Glasgow Provincial Committee, and was a manager of the Western Infirmary and of the Broomhill Homes.

Sir Donald MacAlister, Principal of the University of Glasgow, has been appointed a deputy lieutenant for the city of Glasgow.

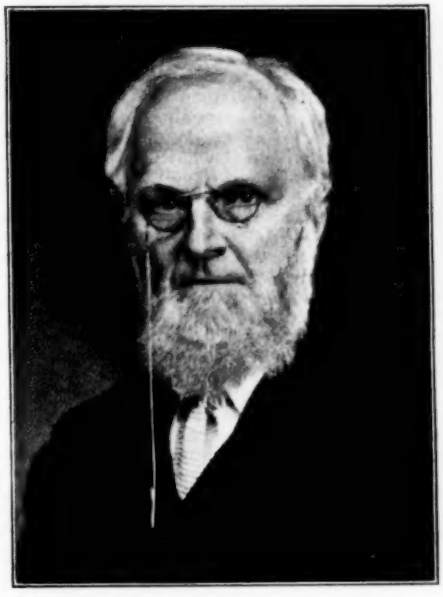
THE PEOPLE'S LEAGUE OF HEALTH ENDOWMENT FUND.—H.R.H. the Prince of Wales has given £20 in support of the appeal of the ex-Lord Mayor of London (Sir Edward C. Moore) on behalf of the £100,000 Endowment Fund of the People's League of Health, of which the King is patron.

Obituary.

THOMAS PRIDGIN TEALE, F.R.C.S. ENG., M.B. OXF., F.R.S.,

CONSULTING SURGEON TO THE LEEDS GENERAL INFIRMARY.

WE announced last week with deep regret the death of Mr. Thomas Pridgin Teale, the famous Leeds surgeon, which occurred on Nov. 13th at his house, Headingley, Leeds. He was by four years the senior Fellow of the Royal College of Surgeons of England, having obtained that diploma in 1857, and had reached the advanced age of 92 at the time of his death. He had a pedigree which pointed directly towards the fame which he obtained as man of science, surgeon, and sanitarian. His father, himself the son of a Leeds surgeon, was Thomas Pridgin Teale, F.R.C.S. and F.R.S., one of the originators of the Leeds School



THOMAS PRIDGIN TEALE.

of Medicine, where he was lecturer for many years on anatomy and physiology, and where he made a name as a surgeon which is perpetuated in text-books by the original advice which he gave in connexion with amputations and urethral surgery. He was one of the Crown nominees on the first General Medical Council in 1858. His wife, and the mother of the subject of this notice, was the daughter of the Rev. Charles Isherwood, a Fellow of Magdalene College, Cambridge.

The second Thomas Pridgin Teale, whose career we are now outlining, was educated at Leeds Grammar School, Winchester, and Brasenose College, Oxford, where he graduated in mathematics in 1852 without particular distinction. He then started as a medical student at King's College, London, and four years later became M.R.C.S. Eng., graduating in medicine simultaneously at his university. He immediately became connected with the Leeds School of Medicine, and for some 20 years lectured there on anatomy and surgery, being appointed surgeon to the Leeds General Infirmary in 1864 in succession to his father. This post also he held for 20 years, retiring from the active staff in 1884, when he was appointed honorary surgeon to the institution. To-day it would be impossible for any surgeon to obtain the position which Teale enjoyed

as alike a great general surgeon and a recognised specialist along completely different scientific and technical lines. He was, perhaps, in the first place an ophthalmologist although he did not practise as an eye specialist. He was a pupil of Bowman, wrote considerably and valuably on diseases of the eye and the technique of their treatment, and introduced the suction curette for the extraction of cataract. He was also a great plastic surgeon, and devised ingenious means for remedying cicatricial disfigurements from cervical adenitis in tuberculosis. Teale and his distinguished colleague at the Leeds General Infirmary, Clifford Allbutt, made elaborate inquiry into this distressing condition, with the result that the removal of the glands by operation was inaugurated and found to give favourable cosmetic results. The third direction in which Teale made fruitful innovations in surgical practice was in connexion with vesicular and urethral surgery. In the last two departments of practice he followed his father in the same manner in which he had followed him in educational and staff appointments. In a similar way son followed father when the subject of this memoir became Crown representative upon the General Medical Council in 1876, a position which he occupied for no less than 25 years, being elected five consecutive times. It need hardly be said that in the decisions of the Council Teale consequently played a very valuable part, for he was equipped, both as an authority on medical education and as an expert in medical science, with the additional merit of long-continued service.

To all the public Teale was widely known as a sanitarian, for here he wrote for popular as well as for technical audiences. In the first instance the question of domestic sanitation, or rather insanitation, in relation to medical practice occupied his attention, and some time before bacteriology could lend any force to his teachings he attributed to bad drainage many epidemic and septicæmic conditions, and much of the mortality after surgical operations, whether performed in private or in institutions. As long ago as 1879 he wrote a popular work entitled "Dangers to Health," which formed a pictorial guide to domestic sanitary defects and achieved popularity in France, Spain, and especially Germany, having been translated into the German language by the late Princess Christian. Teale lectured on domestic sanitation in Leeds and other large cities, and there is no doubt that he created a very wholesome public desire to do away with the abuses revealed. Later, he concentrated on the subject of ventilation, and wrote "Dust and Fresh Air: How to Keep Out the One and Let In the Other," and devised a method of ventilation with Tobin's tubes which for a time enjoyed considerable popularity. He wrote also a pamphlet entitled "Economy of Coal in House Fires," and demonstrated his theories upon domestic fireplace construction by the invention of the well-known "Teale grate."

Teale, who was elected F.R.S. in 1888 and made an Hon. D.Sc. of the University of Leeds shortly afterwards, was twice married, first to Alice, daughter of the Rev. W. H. Teale, who died in 1891, and secondly to Jeanie, second daughter of the late Mr. D. C. Jones, of Tamworth, and leaves four daughters and four sons, one of whom carries on the medical tradition of the family.

A colleague writes: "Various causes contributed to the beneficent influence which Mr. Pridgin Teale exercised in Leeds, in Yorkshire, and wherever his work was felt. Before everything must be placed his personal character. Next should come his enthusiastic interest in his profession and in collateral sciences, though it is probable that only the older generations can remember his contributions to surgery, ophthalmic surgery, and sanitary science, because they are now merged in the ordinary teaching of those subjects. Then his unobtrusive and obviously disinterested efforts to promote the welfare of Leeds gained for him the regard of those leading citizens who recognised the importance and value of his help. And lastly, his Oxford training and associations played a part not very easy to estimate, but one that should not be omitted. The following anecdote will show how he stood in the estimation of his colleagues. Many years ago the writer of these notes was discussing with one of them the degree of eminence to which Mr. Teale would be judged to have attained. My friend, who at the moment was in a somewhat critical vein, after pondering over the various items of Teale's record, enunciated the following verdict: 'Yes, there is no doubt he is a good little man,' and it was Teale's goodness that gave the high value to his public work and scientific achievements. He was, as has been indicated, a man of small frame, and the delicate figure went with a thoughtful, intellectual face. In repose the latter wore an expression of gravity, but in conversation it would break into a singularly alert and happy smile. The possible extravagances of an enthusiastic temperament were kept in complete subjection by a judicial frame of mind. His principles when enunciated were firmly implanted in his nature, and in forming his opinion on any question submitted to his judgment the unselfish sincerity of the man was transparent. In debate or at the council board of the hospital he would express himself in measured, temperate terms without any signs of warmth or irritation, even when circumstances might have been some excuse for them.

Such a character could not fail to acquire the respect and affection of younger men as well as of contemporaries, and affectionate esteem was the predominant feature of the regard in which he was held by those who became his colleagues after his elevation to the consulting staff. They respected him for the good work which he had done before they knew him, for the wise counsel which he was always ready to give to such of them as sought him in difficult moments, and latterly for his venerable old age. Their affection was gained alike by the charm of his friendly manner and by the evident pleasure with which he followed any work they were doing, and the pride which he took in their successes. Nor did he ever, despite his advancing years, become merely a tradition to the students. Probably most of them have listened to one of his occasional addresses; and it is certain that those who have will always retain a pleasant memory of an unusually interesting occasion.

His influence upon professional conduct in Leeds was wholly for the good, for his fine ideals and firm grasp upon right principles guided any advice which he might give. He was never led to side with any of the various currents set in motion by gusts of professional politics, and probably of some of them he remained ignorant, but his choice as a Crown representative on the General Medical Council was justified thoroughly by his wisdom. Many practitioners will remember his characteristic letters to them about their cases, written often in the train with a blue pencil upon single sheets of blue notepaper. But I wonder if it is generally known what became of the practitioners' communications. When each answer was written, unless the letter was required to confirm any notes on the case, it was torn up into fragments and stuffed into a small silk bag for subsequent destruction. This may be thought to be faddy, but it was an evidence of the meticulous care which he took to prevent any possibility of abuse of professional confidence. And there is a circumstance which speaks volumes for the respect in which Teale was held by the profession outside Leeds. Men who have since risen to eminence, and indeed who were marked out for it at the time, sought to be his assistants for a period that they might see private practice under his auspices.

Teale showed his sporting instincts by becoming an enthusiastic fisherman, and like most devotees of that art could wax eloquent on the joys of hooking and landing a salmon. He saw no monotony in fishing day after day without success, and he once assured the writer that if a real fisherman caught one salmon it should make him happy for a fortnight."

PROF. D. W. FINLAY, M.D., LL.D.

IN our last issue we briefly announced the death of Emeritus Professor David White Finlay, who from 1891 to 1912 held the chair of medicine at Aberdeen University. Born in Glasgow in 1840, Prof. Finlay graduated B.A. and M.D. at Glasgow University. He later continued his studies in Vienna, and was subsequently appointed physician and lecturer at the Middlesex Hospital in London and physician to the Royal Hospital for Diseases of the Chest and the Royal Scottish Hospital. He also acted as inspector of examinations in medicine to the General Medical Council. After his appointment to a professorship in Aberdeen he had the honour of representing the University at the bicentenary celebrations at Yale University in 1900, and in 1907 he became dean of the faculty of medicine in succession to Prof. Robert Reid. Royal recognition of his ability as a physician was bestowed on Prof. Finlay in the following year, when King Edward VII. appointed him one of the Honorary Physicians to His Majesty in Scotland, and in June, 1911, a similar honour was conferred upon him by King George V.

Prof. Finlay had many interests outside his professional work. In addition to his authorship of many publications in the medical papers and the Transactions of various medical societies, he was a recognised authority on yachting, and published several important works on that subject. He was an LL.D. of both Yale and Aberdeen Universities, a Fellow of the Royal College of Physicians, London, and of the Royal Society of Edinburgh.

In appreciation of Prof. Finlay as a teacher a correspondent writes: "It is now practically 12 years since Prof. Finlay retired from the regius chair of medicine in the University of Aberdeen and the post of senior physician to the Aberdeen Royal Infirmary, after having served the University devotedly for 21 years. After this period it is natural that impressions of a teacher should have become somewhat blurred by the imprint of other personalities at whose feet one has sat; but certain features of Prof. Finlay's teaching are unforgettable. He was one of a notable band of teachers at Aberdeen—Ogston, Hamilton, MacWilliam, and Stephenson are names that instantly occur, and among these vigorous and differing personalities Prof. Finlay held a distinct place of his own. He was not, perhaps, so loved personally by his students as 'Old Howdie,' but 'Dauvit' undoubtedly left his mark on the succeeding years of men. Punctuality, accuracy of observation, and interest in detail are three features of his teaching which cannot be forgotten.

Prof. Finlay in his systematic teaching of a subject so wide as that of his chair, succeeded in giving the student a thorough grounding in the standard principles of medicine: and to his clinical teaching he brought a wealth of experience and a shrewdness of observation which did not fail to drive home the essential features of a case in a way not easily forgotten. Occasionally, too, there were flashes of a quiet dry humour, generally at the expense of some unfortunate student who showed some lack of precision in his examination or tried to evade a direct answer to a searching question. One got the feeling that even at 9 A.M. on a wintry Aberdeen morning it was of little avail for the sharpest witted young student to try to bluff the old professor at a clinic. Youth is apt to criticise old age as being naturally old-fashioned (and sometimes, alas! with a certain degree of justification), but Prof. Finlay as the years went on never grew senile in either mind or body, and no better grounding in fundamentals of systematic and clinical medicine and of sound treatment could have been got by the student.

Apart from his actual professional work, Dr. Finlay took an active part in the affairs of the University as a whole. He was also deeply interested in the social questions of the city. And beneath the quiet and almost reserved manner to his students he had a very living interest in their well being. For his work he had the highest ideals, and the impression his memory leaves is that of unswerving uprightness as a man, and of throughness, accuracy, and love of truth as a teacher."

CHARLES RICHARDSON, M.R.C.S. ENG.

THE death took place on Nov. 11th, at his residence in Leeds, of Dr. Charles Richardson, reputed to be the oldest medical practitioner in the city, both as regards age and length of professional services. Dr. Richardson was in his eighty-first year, and underwent some weeks ago a severe surgical operation. He became M.R.C.S. in 1867, and was at one time President of the Leeds and West Riding Medico-Chirurgical Society. He had an extensive practice in his own district in Leeds, where his well-set-up figure was familiar for half a century. Unselfish to a degree, he was beloved by all who knew him, and his breezy manner did much to inspire his patients with confidence. He was intimately associated with the Volunteers, being Surgeon-Major to the 2nd W.R. Yorks V.R.E. He was popular as a cricketer and lawn tennis player and as a member of the old Archery Club. Himself a non-smoker and a teetotaller, he was not censorious of the use by others of tobacco and alcohol. One of Dr. Richardson's two sons was killed in the war.

ALEXANDER E. GARROW, M.D., C.M. MCGILL.

THE death from heart disease is reported from Montreal on Nov. 7th of Dr. Alexander Garrow, well known as a surgeon throughout Eastern Canada. Of Scottish origin, he was the son of John Garrow, born in Ottawa in 1862, and educated there and at McGill University, where he graduated in 1889 as gold medallist. After practising for some time in Ottawa as partner of the late Dr. A. A. Henderson, he settled in Montreal, where he became Assistant Professor in Surgery and Clinical Surgery at McGill University and assistant surgeon to the Royal Victoria Hospital. In 1891 he married Miss Victoria Craig of North Gower, Ontario.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg.-Lt. (ret.) J. G. Stevens to be Surg. Lt.-Comdr. (ret.).

A. W. Ross and J. Hamilton to be Surg.-Lts.

Surg.-Comdrs. A. E. P. Cheesman to *Weymouth*, on completing, for passage out and home; and Surg. Lt.-Comdr. E. Hefferman to *Ganges*, for R.N. sick quarters.

ROYAL ARMY MEDICAL CORPS.

Capt. T. K. Boney retires, receiving a gratuity, and is granted the rank of Maj.

Lt. H. A. Gilkes resigns his commn.

MILITIA.

The undermentioned Capts. to be Majs.: T. Walker and W. McK. H. McCullagh.

TERRITORIAL ARMY.

Maj. E. W. Herrington having attained the age limit is retd. and retains the rank of Maj.

Maj. A. Ayre-Smith resigns his commn. and retains the rank of Maj., with permission to wear the prescribed uniform.

ROYAL AIR FORCE.

The undermentioned are granted permanent commissions: R. W. Ryan to be Squadron Leader; and E. C. K. H. Foreman and C. A. Lindup to be Flight Lts.

A SOUTH AFRICAN "MEDICAL" PRESCRIPTION.—At Dordrecht Circuit Court, Cape Province, S. Africa, a man named Henry Lawrence was recently charged with posing as a doctor under the name of Hendrik Hugo. Lawrence had lived in Basutoland and he had professed to treat a number of people and had received considerable sums of money (in one case over £60) from them. The "medicine" used seemed to be ordinary soil, though the accused maintained that it was a concoction of roots. The judge, in passing a sentence of three years' hard labour, described the case as the most extraordinary in his personal experience.

Correspondence.

"Audi alteram partem."

THE LONDON FEVER HOSPITAL.

To the Editor of THE LANCET.

SIR,—You have given a kindly notice of the London Fever Hospital from the medical point of view. May I add a few words from the patient's side of the question?

A good many years ago I had an attack of scarlet fever. My doctor advised me to go to the London Fever Hospital, telling me I should get there the very best medical attendance and nursing. He was right. The visiting physicians at that time were Sir William Broadbent and Dr. Cayley, of Middlesex, and Dr. (later Sir) Shirley Murphy was the R.M.O. I found in them kind and pleasant friends, and our friendship lasted till they died. Like many other patients I got attached to the hospital and joined the committee. We have always had three or more ex-patients on the committee, and it is often convenient to have on a hospital committee men who know it from the inside as well as from the outside.

From the patient's point of view, a hospital has many advantages over even the best nursing home. You have eminent visiting physicians, and there is an R.M.O. always on the spot. If any emergency occurs the whole appliances of the hospital are ready to hand. The nurses are specially trained, and are under a reliable matron. The hospital is constructed for the comfort and convenience of the sick. For example, at the L.F.H. 22 of the private rooms open out on to balconies, so that patients can be moved out into the open air when the weather permits. There are many other advantages known to everyone who is acquainted with the inside of a good hospital.

I am, Sir, yours faithfully,

Nov. 19th, 1923. M. D. CHALMERS.

ANNUAL MEETING OF THE FELLOWS AND MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editor of THE LANCET.

SIR,—Will you favour me with space to reply to the remarks of the President of the College at the close of the annual meeting on Nov. 15th? The Members had not an opportunity of answering then, and Sir John Bland-Sutton did not reply to the suggestions made nor to the points brought forward for the first time, save by reading a prepared statement. The President told us if we wanted a vote for the Council all that was necessary was to become Fellows and lauded the status of the College, its library, and museum. The mouse in the trap is not interested in being told of the excellent quality of the cheese that has attracted him. He is likely, if he can, to tell his own little mice and other mice outside not to follow him. The President appears to give all the credit to the Charter of 1843 for the high position of the College to-day, but one seems to have heard of great surgeons of the College before that date, and surely John Hunter deserves some credit for the fame of the museum. Is there not some evidence of myopic vision in the prospect and retrospect of the Council of the College?

The Member is the "foot" in the shoe, and he knows when and where it pinches. All he asks is that his "head" (the Council) should appreciate, and if possible, relieve his discomfort. That is not possible if the lines of communication—the nerves—between the "foot" and "head" are disconnected, as they are at present. There is no liaison officer between the Members and the Council—no way by which the Council can now get first-hand knowledge of the Members' views This is the essence of the Members' difficulty and claim. From the President's speech one would infer that the College is only concerned with the production, on eugenic lines, of a perfect surgical baby. When he is born his College leaves him on the (outer) steps for any chance foster-mother to protect—e.g., the B.M.A. This appears to be the College conception of parental responsibility. If such is the sole function of the College, why does it speak in the name of its 18,000 Members, without first ascertaining their views on matters of medical policy when consulted by the Government or other public bodies? The Council last year made a point that in conceding the Members' claim it would be acting at variance to the views of its electorate of 1700 Fellows. But the last occasion it consulted the Fellows on this question was in January, 1897.

The Society of Members sent a questionnaire post-card to the Fellows some months ago. The results are still coming in from abroad, but a surprisingly large number of Fellows courteously replied, and over 73 per cent. of the replies were in favour of the Members' claim. The Fellows were praised by the President for showing great interest in their College because less than two-thirds of them voted (by post) for the Council. While the Members were said to be apathetic because, though scattered over England and the Colonies, busy men in general practice, they did not come in larger numbers to the annual meeting to vote in person for their claim. Can it be wondered that they are not eager to come when the only result of their exertions is to receive from the Council a chilling *non possumus*? Is there logic, or fairness, or even a common denominator in this comparison? Would it not be more reasonable for the Council, if they have any real doubt as to the Members' views, to issue a questionnaire to them on the subject? If they would then meet representative Members round a table they could easily reach a solution, satisfactory to all, which would greatly strengthen the College and the diplomates.

I am, Sir, yours faithfully,

REDMOND ROCHE,
President of the Society of Members of the Royal
Nov. 17th, 1923. College of Surgeons of England.

THE IMPORTANCE OF NASAL SINUS INFECTIONS.

To the Editor of THE LANCET.

SIR,—The contributions of Dr. A. L. Yates on the Simulation of Pulmonary Tuberculosis by Painless Maxillary Sinusitis (THE LANCET, Nov. 3rd), and of Dr. T. B. Jobson on Unsuspected Nasal Sinus Disease (Nov. 10th) are of immense practical value, and in each the thesis is advanced in a manner that convinces. I have myself urged the import of nasal sinusitis as a cause of symptoms so difficult to differentiate from those of pulmonary tuberculosis. Apart from exploration of the sinuses that a diagnosis of pulmonary tuberculosis without the tubercle bacillus being found should be accepted with caution and should always lead to the suspicion of a focal sepsis, while the almost equal import of sinusitis or indeed of any obstructive nasal defect co-existing with pulmonary tuberculosis was brought home to me 20 years ago by cases referred to me by Dr. Thurnam, of Nordrach-on-Mendip. Such nasal defects may neutralise all the advantages of sanatorium treatment. I would, however, venture to challenge Dr. Yates's statement that the larynx shows general redness and swelling of the posterior surface of the arytenoids when, and only when, the epiglottis is not tilted backwards, for while such evidence of laryngitis is not seldom present in nasal sinusitis, it is very often non-existent, and its occurrence or absence can hardly be attributable to the position of the epiglottis.

But both Dr. Yates and Dr. Jobson seem to me to attach too much value to the appearance of pus. Dr. Yates states that "frontal and anterior ethmoidal sinusitis do not complicate the diagnosis of chest conditions, because pain is always present in these conditions, and attention is early attracted to the nasal condition. Posterior ethmoidal and sphenoidal

sinusitis have been met with in conjunction with infection of other sinuses, but not otherwise." These statements are incorrect, and their acceptance may lead to cases of sinusitis simulating or complicating phthisis being overlooked. Dr. Jobson, I suggest, attaches too much value to exploration of the maxillary antra by puncture and lavage, and depends for his diagnosis on the appearance of pus in the escaping fluid, but he affords no evidence of his explorations extending to the other sinuses, notwithstanding his early emphasis of the size and import of the sphenoidal sinuses. It is the value of these contributions and their indications of scientific progress in fields of work hitherto insufficiently explored that impels me to invite their further attention to the more exact methods of determining or excluding the existence of focal infection, especially in the ethmoidal cells and sphenoidal sinuses. Also I suggest confirming their diagnosis of maxillary antral and other sinus infections by histological and bacteriological investigations rather than taking the macroscopic appearance or absence of pus as their criterion of infection, otherwise reliance on imperfect though generally accepted methods may lead them to the error of excluding a diagnosis of sinus infection which nevertheless exists, mistakes that I am conscious of having frequently made myself until I adopted the method of exploring individual sinuses by the suction syringe and filming and culturing the sinus contents.

I am, Sir, yours faithfully,

P. WATSON-WILLIAMS, M.D. Lond.

Clifton, Bristol, Nov. 19th, 1923.

EPIDEMIC DIAPHRAGMATIC PARALYSIS.

To the Editor of THE LANCET.

SIR,—In view of the annotation on this subject in THE LANCET of Nov. 17th, it might be worth recording that there is an epidemic of a similar nature in this rural area. Since Oct. 30th 30 cases have come to my notice. The attack starts suddenly with painful respiration, or possibly pain in the epigastric or right hypochondriac regions, made worse by any movements. Slight fever (up to 101° F.) is generally present, also constipation and furred tongue. The pain generally lasts three days, having periods of greater or less intensity, and often passes into the right shoulder, neck, or lumbar region. After one day of complete ease the pain has recurred in one-third of the cases, with fever up to 101°, and in these cases has been present up to the seventh day. White blood counts were made in two cases which were suggestive of appendicular colic, but no leucocytosis was noted. There has been an absence of headache, sore-throat, coryza, nausea (except in one case), glandular enlargement, and prodromal symptoms. Infection would appear to be by contact, and three cases have suggested an incubation period of one week.

It would be of interest to hear if there has been any spread of this epidemic and if so the earliest date on which it was noted. I might add that cases have occurred in an area where there are two different water-supplies.—I am, Sir, yours faithfully,

Godalming, Nov. 18th, 1923. H. W. LEATHAM.

PRESENTATION TO SIR ALFRED RICE-OXLEY.—At Kensington Town-hall on Nov. 15th, in the presence of a large and representative gathering including many medical men, a presentation was made to Sir Alfred and Lady Rice-Oxley, ex-Mayor and Mayoress of Kensington, for the many valuable public services they had rendered to the Royal borough during Sir Alfred Rice-Oxley's three years' tenure of the office of Mayor. The Mayor, Councillor A. J. Allen, presided. The presentations, made by Lord Phillimore, consisted of, to Sir Alfred Rice-Oxley a portrait of himself, painted by Mr. W. W. Russell, A.R.A., and to Lady Rice-Oxley a handsome diamond pendant. Sir Alfred and Lady Rice-Oxley both replied. Sir Alfred Rice-Oxley then presented the portrait to the borough, so that it might hang in the town-hall with the portraits of other mayors, and himself retained the replica.

Parliamentary Intelligence.

HOUSE OF LORDS.

FRIDAY, NOV. 16TH.

Prorogation of Parliament.

THE Lord Chancellor, having read the King's Speech in His Majesty's name, prorogued Parliament to Thursday, Dec. 20th.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 14TH.

Slum Clearances.

Mr. GILBERT asked the Minister of Health how many grants, and what was the total amount of the same, given by his department during 1922 and the present year for slum clearances; and what towns or areas the largest amount of this sum would be given.—Lord E. PERCY (Parliamentary Secretary to the Ministry of Health) replied: Eighty-six local authorities are undertaking, or have under consideration, schemes for the improvement of slum areas, and the annual Exchequer contribution towards the losses on these schemes will be approximately £127,000. The largest contributions will be made in the case of the London County Council, who contemplate schemes involving a total annual loss of £100,000, of which half will fall on the Exchequer. A number of these schemes have already been confirmed. Schemes of considerable magnitude are also proposed by a number of the more important county boroughs, notably Liverpool and Manchester.

Workmen's Compensation Bill.

The Workmen's Compensation (No. 2) Bill was read a third time. The Royal Assent was given to this measure on Friday, Nov. 16th, previous to the prorogation.

THURSDAY, NOV. 15TH.

Panel Doctors' Fees.

Lieut.-Colonel NALL asked the Minister of Health whether he had received an answer to the final offer made to the panel practitioners regarding their terms of service after Jan. 1st, and, if so, what action he proposed to take.—Sir W. JOYNSON-HICKS replied: Yes, Sir. My offer was accepted by a unanimous resolution of the Conference of Panel Committees held yesterday, the alternative being chosen of a Court of Inquiry to investigate and make recommendations as to the capitation fee properly payable as from Jan. 1st. I am taking steps to set up the court as quickly as possible. I understand that the resignations will be withdrawn.

Mr. RHYS DAVIES: Will the right hon. gentleman state where he is going to find the money to pay the increase from 7*s.* 3*d.* to 8*s.* 6*d.*? Will he consult the approved societies on this question and at once call together his own Consultative Council to find out what they think?—Sir W. JOYNSON-HICKS: The question whether anything will have to be paid to the doctors above 7*s.* 3*d.* is a matter for the Court of Inquiry. There is no need for me to consider finding any money until the court has arrived at a decision. I shall be perfectly prepared to call together my Consultative Council. I have been in communication with them yesterday and to-day, and wrote them a very long letter in reply to one which they sent to me this morning.

Sir KINGSLEY WOOD: Will it be open to any insured person to go before this Court of Inquiry and to give evidence as to the character of the panel service and to urge that far too much money has already been spent upon it?—Sir W. JOYNSON-HICKS: There are something like 14,000,000 insured persons, and if they all claimed the right to appear the inquiry would be impossible. In reply to Lieut.-Colonel POWNALL, we have arranged that the approved societies who represent to a very large extent the insured population will have the fullest rights to appear before the Court of Inquiry and state their views.

Colonel NALL: May I ask whether in the final consideration of this question the chief interest to be considered will be that of the insured persons?—Sir W. JOYNSON-HICKS: Certainly. The object I have had in all these long negotiations has been to get an adequate and proper medical service.

Replying to further questions by Mr. DAVIES, Sir KINGSLEY WOOD, and Sir J. BUTCHER, Sir W. JOYNSON-HICKS said that he had already dictated letters to three gentlemen whom he had asked to act as members of the Court of Inquiry. He was not in a position to announce the terms of the inquiry or the form of reference to be put before the court, but it would be a very simple one. It was not yet drafted, but he might say without binding himself to the exact terms that it would simply be to ask the Court of Inquiry to ascertain what was the correct figure to be paid to the doctors for the medical service which they rendered. It would be open to all parties to appear before the court.

European Death-rates.

Mr. RHYS DAVIES asked the Minister of Health to state the death-rate among adults, men and women separately, in each European country during the last four years, as compared with our own statistics, giving similar figures covering infantile mortality.—Sir W. JOYNSON-HICKS replied: I am not in a position to state the death-rates in these countries for adults only, or for men and women separately. The following table gives such information as is available as to the general death-rates (D.R.) and the infant mortality-rates (I.M.R.) for the four years 1918 to 1921. The figures for 1922 are not yet available.

—	—	1918	1919	1920	1921
England and Wales	D.R.	17·6	13·7	12·4	12·1
	I.M.R.	97	89	80	83
Scotland	D.R.	16·3	15·6	14·0	13·4
	I.M.R.	100	102	92	90
Ireland	D.R.	17·9	17·6	14·8	14·2
	I.M.R.	86	90	83	77
Germany	D.R.	24·9	15·5	15·0	—
	I.M.R.	154	121	131	134
Spain	D.R.	33·0	22·7	23·0	21·1
	I.M.R.	183	156	165	147
France	D.R.	22·0	19·3	17·3	17·7
	I.M.R.	140	123	99	115
Denmark	D.R.	12·9	12·9	12·2	11·1
	I.M.R.	74	92	90	77
Bulgaria	D.R.	28·8	19·8	—	—
	I.M.R.	138	109	—	—
Belgium	D.R.	21·2	14·9	13·7	13·8
	I.M.R.	134	99	104	115
Austria	D.R.	26·5	20·5	18·9	16·9
	I.M.R.	193	156	147	—
Hungary	D.R.	25·9	19·6	21·2	19·3
	I.M.R.	217	159	193	197
Italy	D.R.	—	—	—	—
	I.M.R.	—	—	—	—
Norway	D.R.	17·0	13·8	12·7	11·4
	I.M.R.	63	67	56	—
Netherlands	D.R.	17·1	13·2	12·0	11·1
	I.M.R.	93	84	73	76
Portugal	D.R.	40·0	24·1	22·4	—
	I.M.R.	—	—	—	—
Finland	D.R.	28·6	18·9	15·8	13·9
	I.M.R.	115	135	97	95
Sweden	D.R.	18·0	14·4	13·2	12·3
	I.M.R.	65	—	—	—
Switzerland	D.R.	19·4	14·2	14·4	12·7
	I.M.R.	88	82	84	74
Roumania	D.R.	—	—	—	—
	I.M.R.	301	193	231	—

Fees of Doctors and Midwives.

Mr. RHYS DAVIES asked the Minister of Health to state separately the charges or fees of doctors and midwives attending in confinement cases in working-class homes in the years 1911, 1912, 1913, 1922, and 1923, respectively.—Sir W. JOYNSON-HICKS replied: I have no information as to the charges made in these cases in the years 1911 to 1913. I understand that the fees of midwives now vary from 15*s.* to 30*s.* per case in rural areas, and from 1 guinea to 2 guineas in urban areas. These figures apply both to 1922 and 1923. I have no information as to the charges made by doctors attending these cases in their private practice, but when a doctor is called in by a midwife under Section 14 of the Midwives Act, 1918, he receives a fee of 2 guineas from the local supervising authority. The services rendered for this fee are specified in a circular issued by my department.

Cost of Pensions.

Mr. SHORT asked the Minister of Pensions the total cost of pensions as compared with 12 months ago.—Capt. CRAIG (Parliamentary Secretary to the Ministry of Pensions) replied: Excluding the cost of administration, the total expenditure of the Ministry for the year ending March 31st, 1923, was approximately £76,500,000, as compared with the estimated expenditure of £70,000,000 for the present financial year, a decrease of £6,500,000, or 8½ per cent. The cost of administration (including that of medical services) will, it is expected, have fallen from £4,241,600 for the year ending March 31st, 1923, to £3,598,000 for the current year, a decrease of over £640,000, or nearly 16 per cent.

Venereal Disease.

Capt. ARTHUR EVANS asked the Minister of Health whether Clause 16 of the Trevethin report, dealing with the expenditure of money for reducing venereal disease, had yet been considered by the Government; whether the question of Government financial assistance to the work of voluntary organisations had been decided; and whether, in view of the fact that the Society for the Prevention of Venereal Disease and the National Council for Combating Venereal Diseases had both unconditionally accepted the Trevethin report, and had met in conference and had determined on joint action for giving effect to its recommendations, he would cause the maximum grant, which was to be made by the Government, to be divided in an equitable proportion between the two organisations.—Sir W. JOYNSON-HICKS replied: The answer to the first two parts of the question is that the recommendations in the Trevethin report, including the question of financial assistance from the Exchequer to the work of voluntary organisations, are now under consideration by the Government. As regards the third part, I am not yet in a position to say how any Government grant for this purpose will be allocated.

Supplies of Calf Lymph.

Mr. BARKER asked the Minister of Health if he was aware that private medical practitioners were experiencing difficulty in obtaining supplies of glycerinated calf lymph of the same guaranteed purity as that supplied to public vaccinators by the Ministry of Health; and would he take steps to see that such lymph was procurable at a reasonable charge by private medical practitioners from Government sources.—Sir W. JOYNSON-HICKS replied: As regards the first part of the question, I am advised that there is no difficulty in obtaining from reputable firms supplies of glycerinated calf lymph of reliable quality. The action suggested in the second part of the question would involve a large and costly extension of the present Government supply, for which, as at present advised, I see no need.

Fire at Highbury Hospital.

Mr. WILLIAM M. ADAMSON asked the Minister of Pensions whether the committee of inquiry had yet reported on the origin of the disastrous fire at Highbury Hospital; when the report would be available for Members of the House and the public; and what compensation had been awarded to the unfortunate sufferers and to the relatives of the two men who lost their lives.—Capt. CRAIG replied: The report was printed in September and is on sale. In the case of the two men who unhappily lost their lives, entitlement to pension on behalf of their dependents has been admitted on the same basis as if death had occurred on service. All necessary medical treatment and attention has been provided for those who were injured. Two of these are still under treatment, and I am glad to say they are progressing satisfactorily.

Insanity.

Mr. BARKER asked the Minister of Health if he had received a copy of a resolution passed in August last by the guardians of the Bedwellty Union deploring the growing increase of insanity, imbecility, and epilepsy, which had become a serious menace to the national health; and would he take measures for the eradication of these diseases by means of research work for the causes, prevention, and possible cure by propaganda similar to that carried out for tuberculosis, syphilis, &c.—Sir W. JOYNSON-HICKS replied: I have received a copy of the resolution referred to. While I concur in the view that insanity seriously affects the national health, I would point out that the incidence of insanity is not increasing out of proportion to the growth of population. Research into the causes of mental disorder is recognised as one of the first essentials if the possibilities of prevention and cure are to be fully explored. The question of propaganda, however, in regard to mental disorder presents special difficulties which would require further consideration before I could make any promise in the matter.

State of Public Health.

Capt. AINSWORTH asked the Minister of Health whether from the latest official statistics he could indicate the present state of the public health; and whether there was any abnormal sickness of any sort being dealt with under the National Health Insurance Fund.—Sir W. JOYNSON-HICKS replied: As regards the first part of the question, I would refer the hon. and gallant Member to the report of the Chief Medical Officer of the Ministry of Health on the state of public health, which was issued in September. As regards the second part, the figures at present available show a lower expenditure on sickness and disablement benefits in the first three-quarters of the present year than in the corresponding period of 1922, and the total expenditure on those benefits is within the actuarial estimate.

The Tuberculosis Order, 1914.

Mr. F. HALL asked the Minister of Health whether he had received resolutions from local authorities urging that the Tuberculosis Order of 1914, which was suspended during the war, should be put into operation without further delay; and whether he proposed to take the action desired.—Major BARNSTON (Treasurer of the Household) replied: The reply to the first part is in the affirmative. My right hon. friend would explain, however, that the cost of putting into operation the Order in question is estimated at £80,000 from the Exchequer and about twice that sum from local authorities. In the present financial stringency the Ministry would not feel justified in reviving the Order in view of the small number of local authorities who have expressed their wish for its reimposition.

Medical News.

UNIVERSITY OF LONDON.—At examinations held recently the following candidates were successful:—

THIRD (M.B., B.S.) EXAMINATION FOR MEDICAL DEGREES.

Honours.—Susanna M. Bernard (*e*), London Sch. of Med. for Women; Joan O. Geldard (*d*), Univ. Coll. Hosp.; David Krestin (*a*, *d*), London Hosp.; David Levi (*d*), St. Mary's Hosp.; Alan A. Moncrieff (*a*, *d*, University Medal), Middlesex Hosp.; Andrew J. Morland (*a*), Univ. Coll. Hosp.; Eileen M. Saxton (*e*), St. Mary's Hosp.; Ernest F. Smith (*e*), St. Thomas's Hosp.; and Selwyn E. Tanner (*a*), Univ. Coll. Hosp.

(*a*) Distinguished in Medicine. (*d*) Distinguished in Surgery. (*e*) Distinguished in Midwifery.

Pass.—Edith I. L. Abbott, Univ. Coll. Hosp.; Kathleen Ardell, London Sch. of Med. for Women; John V. Armstrong, St. Mary's Hosp.; Jessie H. Baxter, Univ. Coll. Hosp.; Davis E. Bedford, Middlesex Hosp.; Anthony Blackstock, King's Coll. Hosp.; Kathleen N. Blomfield, London Sch. of Med. for Women; Hilda A. Bond, Univ. Coll. Hosp.; Frank Brockington, King's Coll. Hosp.; Ellinor M. Burnett, London Sch. of Med. for Women; James C. Churcher, St. Thomas's Hosp.; Ronald S. Coldrey, St. Bart.'s Hosp.; Gladys M. Cox and Helen I. Davies, London Sch. of Med. for Women; Mary L. Davies, St. Mary's Hosp.; Winifred Ealand, London Sch. of Med. for Women; Harold C. Edwards, King's Coll. Hosp.; Guy W. Elkington, Guy's Hosp.; Mary E. Fox, London Sch. of Med. for Women and St. Mary's Hosp.; Arthur W. Gott, Leeds University; Dorothy E. Gray, London Sch. of Med. for Women; Margaret C. N. Hadley, London Hosp.; Theodore Handel, King's Coll. Hosp.; Gladys Hill, London Sch. of Med. for Women; Lydia M. Houghton, Bristol University; Laura M. Jacobs, London Sch. of Med. for Women and St. Mary's Hosp.; Archibald L. P. Jeffery, St. Thomas's Hosp.; Leslie M. Jennings, St. Bart.'s Hosp.; Harry V. M. Jones, St. Thomas's Hosp.; Percy T. Jones, Univ. Coll. Hosp.; Georges Klionsky, St. Bart.'s Hosp.; Colin P. Ledward, Univ. Coll. Hosp.; Mary A. Leslie-Smith, St. Mary's Hosp.; Dorothy N. L. Leverkus, London Sch. of Med. for Women; John H. M. Lloyd and Desmond M. MacManus, Guy's Hosp.; Caroline A. Meade and Margaret S. Mills, London Sch. of Med. for Women; William E. M. Mitchell, St. Bart.'s Hosp.; David C. Muir, Middlesex Hosp.; Albert B. Nutt, Sheffield University; Judith E. M. Ormerod, London Sch. of Med. for Women; Beryl Palmer-Jones, Univ. Coll., Cardiff, and King's Coll. Hosp.; Emily C. N. Paterson, King's Coll. Hosp.; Thomas V. Pearce, St. Thomas's Hosp.; Ruth W. Plimsoll, St. Mary's Hosp.; Eric D. Pridie, Liverpool University; Margaret A. Quine, King's Coll. Hosp.; Walter M. Ramsden, Guy's Hosp.; Isabella McDougall Robertson, London Sch. of Med. for Women and St. George's Hosp.; Morris Robinson, Univ. Coll. Hosp.; Olive M. Salmon, St. Mary's Hosp.; Agnes B. Smith, King's Coll. Hosp.; Edith E. Stephens and Ella M. Stratton, London Sch. of Med. for Women; Ralph S. Swindell, London Hosp.; Ida M. Tancock, London Sch. of Med. for Women; Joseph Whitby, Middlesex Hosp.; James de Silva Wijeyeratne, Univ. Coll. Hosp.; Caroline I. Wright, Charing Cross Hosp.; and Marguerite A. M. Xavier and Mildred M. E. Yate, London Sch. of Med. for Women.

The following students have passed in one of the two groups of subjects:—

Group I.—Muriel E. Binns and Hilda M. Cunnington, London Sch. of Med. for Women; David J. Davies, Middlesex Hosp.; Barbara J. Edwards, Birmingham University; Lucy M. Elsom, King's Coll. Hosp.; Walter S. Evans, Univ. Coll. Hosp.; John W. Joule, St. Bart.'s Hosp.; Duncan C. McIntosh and Kate Madders, Univ. Coll. Hosp.; Grace H. Newell, London Sch. of Med. for Women; Elizabeth M. Nicholson-Smith, King's Coll. Hosp.; and Maurice L. Sutcliffe, Univ. Coll. Hosp.

Group II.—Doris K. Brown, London Sch. of Med. for Women; Cecily D. Crosskey, Birmingham University; Kenneth H. Deane, St. Bart.'s Hosp.; Vincent P. De Zoysa, Ceylon Med. Coll. and Univ. Coll. Hosp.; George F. Gibberd, Guy's Hosp.; Stanley J. Golden, London Hosp.; Rachel Halperin, Univ. Coll. Hosp.; James R. Hamerton, St. Bart.'s Hosp.; Aglionby D. Hepburn, St. Thomas's and Westminster Hosps.; Gwynedd Hugh-Jones and Kathleen M. Hyslop, London Sch. of Med. for Women; David J. Jones, St. Thomas's and Westminster Hosps.; Ronald E. Lane, Guy's Hosp.; Lewis O. Lindsay, London Hosp.; Francis Louis, Harold J. Malkin, and Doris I. Mart, Univ. Coll. Hosp.; Violet E. M. Mizen, London Sch. of Med. for Women; George S. Morgan, St. Bart.'s Hosp.; Richard M. Morris, London Hosp.; John P. Peel, Leeds University; Cyril S. C. Prance, St. Bart.'s Hosp.; Phyllis M. Rex, St. Mary's Hosp.; Harold N. Rose, St. Bart.'s Hosp.; William H. Royal, Bristol University; Marjorie Rushbrooke, Birmingham University; Alan R. Rutnam, Middlesex Hosp. and Ceylon Med. Coll.; Mary M. Sillito, London Sch. of Med. for Women; Dorothy M. Stewart, London Sch. of Med. for Women and St. Mary's Hosp.; Doris M. Stone, London Sch. of Med. for Women; William Thomas, London Hosp.; Kathleen C. Vost, St. Mary's Hosp.; Edward G. L. Walker, St. Thomas's Hosp.; James A. Walker, St. Mary's Hosp.; Joan F. Whitelock, Univ. Coll. Hosp.; Emrys Williams, St. Thomas's Hosp.; John G. Wilson, Westminster Hosp.; Esther Wingate, London Sch. of Med. for Women; and Edith V. Wood, London Hosp.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of the Naval, Military, and Air Force Hygiene Group of the Society will be held at 1, Upper Montague-street, Russell-square, W.C., on Nov. 30th, at 5 P.M., when Major-General W. W. O. Beveridge will deliver his presidential address. Any medical men who have served with His Majesty's Forces are invited to attend this meeting.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—A two weeks' intensive course will be held at the Hampstead General and North-West London Hospital, Haverstock-hill, N.W. 3, from Dec. 3rd to 15th. The course will occupy the whole of each day, and will consist of clinical demonstrations in the wards, out-patient department, &c., by the various members of the staff. Two special demonstrations will be given at the North-Western Fever Hospital, Lawn-road, Hampstead, N.W. 3, on the diagnosis and treatment of infectious fevers; during the second week there will be four clinical demonstrations on neurological subjects at the Hospital for Epilepsy and Paralysis, Maida Vale. Dec. 11th will be devoted entirely to clinical demonstrations in the various departments of the Paddington Green Children's Hospital, W. 2. The fee for the course is 4 guineas. Copies of the syllabus, with full particulars, can be obtained from the secretary to the Fellowship of Medicine, 1, Wimpole-street, W. 1.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: ANNUAL MEETING OF FELLOWS AND MEMBERS.—This meeting was held at the College on Nov. 15th. The attendance numbered between 40 and 50 and Sir John Bland-Sutton presided. On Dr. Wallis asking whether the number attending museum demonstrations could be published, and Dr. Collingwood asking what was the number of Fellows voting at the Council elections, the President, in reply, said that the numbers attending museum demonstrations would be published again as they had previously, while the number of Fellows voting at the Council elections was included in the report of the College. Dr. S. C. Lawrence, the secretary to the Society of Members of the College, decided not to put the questions standing in his name, to which publicity had already been given.

The first resolution was then proposed by Dr. Edwin H. T. Nash in the following words:—

> That this thirty-fifth annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation upon the Council of the College, which (as now constituted) only represents those Members who also hold the Fellowship; and that it does so, in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation; further, that as the Royal College of Surgeons is composed of about 18,000 persons, of whom over 16,000 are engaged in general practice, this annual meeting requests the President and Council to consider some means whereby Members in bona fide general practice may be represented upon the Council of the College.

Dr. Nash suggested as an alternative, which was not accepted, that there should be a conference of the Council and representatives of the Society. The resolution was seconded by Dr. Redmond Roche, the President of the Society of Members of the College, who called attention to the disabilities of the Members, adding that the removal of non-registrable degrees from the Register had recently penalised practitioners in the public eye. He directed his remarks chiefly to the reasons given by the late President of the College for not acceding to the Members' claims, and with regard to the view of the Fellows he added that the Council had not tested that view for 27 years, while a questionnaire sent out by the Society had received favourable response. He alluded to the fact that this was the centenary of THE LANCET, whose founder had carried his energetic protests against the management of the College in those days to a point at which Bow-street runners had to be called in to remove him from the precincts in which they stood. Dr. Vinrace, Dr. F. G. Lloyd, and others having spoken, the resolution was passed unanimously.

The second resolution, moved by Dr. H. M. Stratford and seconded by Dr. Charles Hayward, invited the President to state what in the opinion of the Council were the difficulties which prevented assent to representation on the Council of Members in general practice. Dr. Alexander Scott, Dr. Harrison, and Dr. Collingwood having spoken, the President, reading his reply, expressed his belief that the grievance of the Members could not be widely felt, or so many young men and women would not show keenness to obtain the diploma of the College, while it was open to any Member to become a Fellow by passing the required examination. He pointed out to the meeting that Fellows of the College who were in general practice had served on the Council and that part at least of the movement for a change of the constitution of the College was due to a misapprehension of the functions of the College. The meeting, which was conducted in an amicable spirit, closed with a vote of thanks to the President.

SOCIETY OF APOTHECARIES OF LONDON. — The livery dinner will be held in the Apothecaries' Hall, Blackfriars, London, E.C., at 6.30 P.M., on Tuesday, Dec. 4th.

SMALL-POX IN ENGLAND AND WALES.—During the week ended Nov. 10th 25 cases of small-pox were notified to the sanitary authorities of the following areas: Derbyshire 3 (Ripley 1, Blackwell R.D. 2); Durham 1 (Washington); Gloucestershire 10 (Gloucester 3, East Dean 7); Notts 8 (Hucknall); Yorks W. Riding 3 (Adwick-le-Street).

MANCHESTER RADIUM INSTITUTE.—Owing to the increasing number of patients applying for treatment the executive committee has decided to expend £3000 in the purchase of more radium, which will bring the total sum expended on radium by the Institute to £40,000.

ROYAL SOCIETY OF MEDICINE.—On Nov. 27th, at 5.30 P.M., a combined meeting of the Medical and Surgical Sections will be held in the Barnes Hall, 1, Wimpole-street, W. 1, to discuss the Surgical Treatment of Pulmonary Tuberculosis. The discussion will be opened by Prof. P. Bull, of Christiania, who is making a special visit to this country for the purpose of this meeting. All medical men and women interested in the subject are cordially invited to attend.

INTERNATIONAL SOCIETY OF APPLIED PSYCHOLOGY IN PARIS.—The annual reunion of the Society was held on Nov. 20th, at 49 Rue Saint-André-des-Arts, under the presidency of Dr. Ch. Fiessinger. The subjects dealt with were: (1) The relation of affectivity to psychic diseases; (2) psychotherapy of troubles of affectivity; (3) individual communications on psychotherapy and applied psychology. Dr. C. Sampson (London) read a paper on Muscular Amnesia.

UNIVERSITY OF MANCHESTER.—The following have been elected to Honorary Research Fellowships: Mr. E. D'Arcy McCrea, M.D., F.R.C.S.I., D.P.H., in physiology (for a second year), Mrs. Gertrude Robinson, M.Sc., in chemistry, and Mr. W. K. Slater, M.Sc., in chemical physiology (for a second year). Prof. A. V. Hill has presented to the University a sum of £300 to endow a prize to be awarded for an essay on a biochemical subject.

PRESENTATION TO SIR FREDERICK MOTT.—On his retirement from the appointment of Pathologist to the London County Mental Hospitals (1895–1923) and Director of the Laboratory at the Maudsley Hospital, Sir Frederick Mott was the recipient of a presentation from his colleagues and co-workers. The presentation, which took the form of a Chippendale bookcase, was made at the London County Hall on Nov. 15th by Mr. H. F. Keene, chief officer of the Mental Hospitals Committee, Dr. P. C. Spark, senior medical superintendent, and Dr. Herbert Bond, Commissioner of the Board of Control. An illuminated book which contained 96 names set out the presentation "as a token of their appreciation of your brilliant research work, of your efforts in connexion with the establishment of the Maudsley Hospital, and of the great assistance you have afforded to workers in the field of psychological medicine." Sir Frederick Mott remains director of the course of psychological medicine at the Maudsley Hospital, where he is still working in the laboratory. His appointment as hon. director of the Birmingham Research Board was announced not long ago.

A NEW MINISTRIES' BILL IN IRELAND.—Our Irish correspondent writes: A Bill is at present under discussion in the Irish Parliament for the grouping of the several departments of government under the appropriate ministries. Instead of the old local government department we are to have in future a ministry of local government and public health. This ministry will have control of activities approximately similar to those controlled in England by the Ministry of Health. In it will be the Local Government Department, the National Health Insurance Commission, the office of the Inspector of Lunatics, and the Registrar-General. All these are closely connected with the care of health. The Ministry unfortunately, however, is to perform other functions which bear no relation to health. Not content with the control already exercised by the Local Government Department over fairs and markets, it is to take over the care of roads from the Ministry of Industry. It is a distinct advance that the words "Public Health" should appear in the title of the Minister responsible for the public health, for it emphasises the importance of this part of his duties, both to him and to the public. Again, while it is satisfactory to leave the various activities concerned with health concentrated in one Ministry, it is unfortunate that that Ministry should be distracted by affairs not concerned with health. It is somewhat amusing that the Irish Public Health Council—the body founded to advise the Chief Secretary in his capacity as Minister of Health for Ireland—has been forgotten altogether in this fresh grouping of departments.

SANITARY INSPECTORS EXAMINATION BOARD.—The Board have appointed Dr. A. T. Nankivell (M.O.H., Hornsey), Dr. James Fenton (M.O.H., Kensington), Mr. C. G. E. Fletcher (Town Clerk, Islington), and Mr. Arthur J. Martin, M.Inst.C.E., to act as examiners for the Board during the year 1924.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—At a quarterly meeting of the College held on Nov. 6th, with Sir Robert Philip, the President, in the chair, Dr. John Lindsay Boyd was elected a Fellow of the College, and Drs. W. Macrae Taylor, Robert A. Chambers, Atholl Robertson, and J. Primrose Leckie were elected Members of the College. The Hill Pattison-Struthers Bursary in Clinical Medicine was awarded to Dr. Edward R. C. Walker, the Hill Pattison-Struthers Bursary in Anatomy and Physiology to Mr. T. Duncan Gould, and the Wood Bursary to Mr. Ian A. G. L. Dick. Dr. Alexander Blackhall-Morison presented to the College a portrait of the late Sir Alexander Morison, and a baculum for the use of the Morison lecturer.

HOSPITAL FINANCE IN LONDON, LIVERPOOL, AND MANCHESTER.—In a communication to the *Manchester Guardian* of Nov. 16th Mr. F. G. D'Aeth, secretary of the Liverpool Council of Voluntary Aid, gives the following statistics showing the comparative sources of income from three large centres of population. The figures are for 113 London, 16 Liverpool, and 17 Manchester hospitals for 1922, and are based as follows:—London: All income received from the general funds of the hospitals, with the exception of the special appeal (£243,115). Liverpool: All money received during the year by the institutions as a whole (that is, general and smaller funds). The income thus includes all legacies and donations for investment. Manchester: All income received for general and special funds during the year, but excluding legacies for specific purposes and donations for investment. In each case the grants from the Voluntary Hospitals Commission are included in the figures—that is, London £146,200, Liverpool £10,964, and Manchester £12,485.

	London.	Liverpool.	Manchester
(1) Annual subscriptions	—*	£20,867	£55,469
Pc.I.	—*	7·0%	20·3%
(2) Hosp. Sat. and Sun. Fund	—*	£17,150	£14,517
Pc.I.	—*	5·8%	5·3%
(3) Income from investments	£505,549	£37,301	£51,476
Pc.I.	19·8%	12·7%	18·8%
(4) Patients' payments	£489,717	£55,378	£34,011
Pc.I.	19·2%	18·8%	12·4%
(5) Public authorities and App. Socs.	£255,446	£33,773	£38,997
Pc.I.	10·4%	11·4%	14·2%
(6) Earnings (fees, &c.)	£23,928	£6987	£11,572
Pc.I.	·9%	2·3%	4·2%
(7) Legacies	£172,316	£75,472	£22,312
Pc.I.	6·7%	25·6%	8·1%

—* Figures not available.
Pc.I., Percentage to total income.

THE LANCASTER MEDICAL BOOK-CLUB.—A dinner was given on Nov. 14th in celebration of the hundredth anniversary of the foundation of the club on Nov. 11th, 1823, about 90 members and guests being present. Mr. A. S. Barling, the President, was in the chair, and was supported by Sir Norval Helme, Prof. A. C. Seward, F.R.S., Mr. J. E. Singleton, K.C., Mr. E. W. Wingate-Saul, K.C., Canon Coates, and Dean Blundell. The original minute book was shown containing the resolution forming the club: "It is expedient to establish a society to be called the Lancaster Medical Book-Club, to consist of the gentlemen present and such other medical gentlemen resident in Lancaster as shall hereafter be elected by a majority of existing members." After the loyal toasts, Dr. W. H. Coupland proposed "The Guests," emphasising the importance of the influence of mind over matter and advocating the collaboration of the spiritual and bodily advisers. Whilst paying tribute to the research workers we must, he said, look to the general practitioner for warning of the earliest signs of disease. Mr. Singleton and Dean Blundell replied. Prof. Seward, in proposing "The Club," dealt with the relation of pure science to medicine which he described as an applied science. Every medical man ought to have a thorough grounding in science, and particularly in bio-chemistry and bio-physics. They ought to study the beginnings of life in its lowest forms. The President, in reply, gave a short history of the club which, although it retained its original name, had for more than half a century, if not from the first, been a clinical and ethical society. He epitomised medical progress since its establishment, remarking that so long as tubercle and cancer were unconquered the profession had little cause for self-admiration. All the wise men of the world had but touched the fringe of the hem of the mantle of knowledge. To take a leaf from the old minute of 1827: "The evening was spent in the greatest harmony and good order, and the company separated about 12 o'clock."

SOCIETY FOR CONSTRUCTIVE BIRTH CONTROL.—A dinner will be given to Dr. Marie Stopes at the Hotel Cecil, London, on Tuesday, Nov. 27th, at 7.30 P.M., Sir Arbuthnot Lane presiding.

CHADWICK PUBLIC LECTURES.—In consequence of the General Election the lectures by Major Harry Barnes and Dr. A. K. Chalmers are being postponed until the New Year.

ROYAL UNITED HOSPITAL, BATH.—At the conclusion of the second series of post-graduate demonstrations held at the hospital on Saturday afternoons from Oct. 6th to Nov. 10th, the class, which comprised some 40 practitioners, chiefly from the surrounding country towns, entertained the staff to lunch and presented them with a cheque for £50 for the museum fund.

ROYAL SOCIETY OF ARTS.—A lecture will be delivered on the Effect of Sun, Sea, and Open-air in the Treatment of Disease, by Sir Henry Gauvain, medical superintendent of the Lord Mayor Treloar Cripples' Hospital, on Wednesday, Nov. 28th, at 8 P.M., in the Society's premises at John-street, Adelphi, London, W.C. Lord Dawson will preside.

THE PARLIAMENTARY ELECTION: MEDICAL CANDIDATES.

NOMINATIONS for the General Election which takes place on Dec. 6th must be made on or before Nov. 26th, and the new Parliament will assemble on Jan. 8th. The list of medical men who sat in the recent House of Commons is as follows:—

Late Member.	*Constituency.*	*Party.*
Sir George Berry	Scottish Universities	Conservative.
Dr. W. A. Chapple	Dumfries	Liberal.
Sir John Collie	Glasgow, Partick	National Lib.
Capt. W. E. Elliot	Lanark, Lanark	Conservative.
Dr. F. E. Fremantle	Hertford, Albans	Conservative.
Dr. L. G. S. Molloy	Blackpool	Conservative.
Dr. J. E. Molson	Lincoln, Gainsborough	Conservative.
Sir Sydney Russell-Wells	London University	Conservative.
Dr. Alfred Salter	Bermondsey, West	Labour.
Dr. Thomas Watts	Manchester, Withington	Conservative.
Sir William Whitla	Queen's University, Belfast	Conservative.
Dr. J. H. Williams	Carmarthen, Llanelly	Labour.

Most of these have, we understand, signified their intention of standing again for their old constituencies. Sir John Collie and Dr. Molloy are not seeking re-election.

In addition the names of the following medical men and women have been announced as Parliamentary candidates:—

Candidate.	*Constituency.*	*Party.*
Dr. Ethel Bentham*	Islington, East	Labour.
Dr. R. Dunstan*	Birmingham, Ladywood	Labour.
Dr. M. I. Finucane	Westminster, Abbey	Liberal.
Dr. O. Gleeson	Portsmouth, North	Labour.
Dr. L. Haden Guest*	Southwark, North	Labour.
Mr. Somerville Hastings*	Reading	Labour.
Dr. G. B. Hillman	Yorks W.R., Normanton	Conservative.
Dr. H. B. Morgan*	Camberwell, North-West	Labour.
Dr. R. W. Simpson*	Newcastle-on-Tyne, North	Liberal.
Dr. E. G. Spero*	Stoke Newington	Liberal.
Dr. R. McNair Wilson*	Essex, Saffron Walden	Liberal.

An asterisk is affixed to the names of those who contested seats unsuccessfully at the General Election last year, the identical seat in each case with the exception of Mr. Hastings, who then stood for Surrey, Epsom, and Dr. Spero for Leicester, West.

The Parliamentary Elections Committee of the British Medical Association (429, Strand, London, W.C. 2) is no doubt supporting two or more candidates as at the last election, although we regret to note that Dr. H. B. Brackenbury is not standing again. The Federation of Medical and Allied Services (12, Stratford-place, London, W. 1) is also supporting medical candidates as on previous occasions and has already received several applications from such.

We may express a hope that medicine will be well represented in a House of Commons where social legislation is promised by each of the political parties.

THE SIMMINS APPEAL FUND.

THE third list of subscriptions, which we give below, brings the Fund appealed for on behalf of the children of the late Temp. Surgeon-Lieut. Alfred George Simmins to the gratifying total of over £1260. The first and second lists were published respectively in THE LANCET of April 21st and of June 2nd.

Third List of Contributions.

	£	s.	d.
Anon. (per Prof. T. B. Johnston, Guy's Hosp. Med. School)	21	0	0
Some Members of "Lloyds"	15	0	0
Members of the B.M.A. and other practitioners of Warrington (per J. B. Naden)	12	15	0
Hildred Carlill, A. F. Hurst, North London Med.-Chir. Society ..each	10	10	0
Anon. (Amara, Mesopotamia), Anon. (per Prof. Johnston), Anon. (Hong-Kong), V. P. Mondon (Tasmania) ..each	10	0	0
North Marylebone School of Mothercraft (per Mrs. G. Buckley)	9	10	0
Mary Beadon, Sir G. F. Blacker, Gilbert Chubb, Stanley Dodd, Robert Hutchison, F. Langmead, Walter Spencer, H. L. Tidy, H. C. V., R. S. Willan (an old shipmate) ..each	5	5	0
Adolphe Abrahams, Capt. Hamilton, R.N. ..each	5	0	0
G. B. Henriques	4	0	0
S. E. Dore, H. Tudor Edwards, N. S. Finzi, Dr. Gilman (Singapore), E. G. Goldie, Prof. T. B. Johnston, Dr. Livermore, A. J. M., G. T. Mullaly, J. A. Ryle, F. D. Saner, A. W. Stott ..each	3	3	0
Chas. Bolton, E. P. Poulton ..each	3	0	0
Eric Bailey, C. H. Bubb and W. A. Bulleid, R. Fenn, A. Green, J. Braxton Hicks, Montagu F. Hopson, H. Pinto Leite, Dr. Logan, F. Mauser, H. Oddy, F. C. Odling, T. H. Oliver, R. P. Rowlands, Dr. Ruzzak, D. H. de Souza, Theodore Thompson each	2	2	0
Anon. (per J. Curtis), J. C. Baker ..each	2	0	0
Drs. Rogers and Bell	1	11	6
A. E. Druitt	1	10	0
Anon., T. C. Blackwell, R. L. Crabb, Hubert Daw, J. S. Dudding, D. G. Greenfield, G. B. Good, G. W. Heckels, J. G. Jones, G. M. Kendall, H. A. Kisch, Dr. Lightwood, P. E. W. MacAdam, A. D. Marston, A. T. Scott, H. Steinbach, D. Tilbury, S.W. ..each	1	1	0
Francis Chown, A. B. de Freitas, Mrs. Sandiford each	1	0	0
Amounts under £1 total	2	0	0

The Fund Committee has recently met in order to discuss how the money shall be administered. It is now intended to close the Fund, but any members of the profession who may wish to subscribe and have not yet done so may send their contributions to the treasurer, Simmins Appeal Fund, at the Royal Northern Hospital, Holloway-road, London, N. 7.

Appointments.

FRESHWATER, D. H., M.D. Camb., M.R.C.P. Lond., has been appointed Assistant Physician to the Skin Dept., St. George's Hospital, S.W.

HENRIQUES, STELLA, M.B., Ch.B. Aberd., Assistant School Medical Officer to the Tillingham (Kent) Education Authority.

MCCURRACH, ELIZABETH, M.B., C.M. Aberd., D.P.H., Surgeon to Nyasaland Church of Scotland Mission.

REID, J., L.R.C.P. & S. Edin., Assistant Medical Officer to the County Mental Hospital, Hereford.

WILSON, A. S., M.B., Ch.B. Glasg., Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 6.

Surgeons under the Factory and Workshop Acts: FOWWEATHER, F. S., M.B., Ch.B. Liverp. (Ellesmere Port District); BARKER, G. L., L.R.C.P. Lond., M.R.C.S. (Wainfleet); MARTIN, J. F. G., (Littleport).

Vacancies.

For further information refer to the advertisement columns.

Birmingham City Hospital for Infectious Diseases, Little Bromwich.—Sen. Asst. M.O. £350.

Brighton County Borough Mental Hospital, Haywards Heath.—First Asst. M.O. £700.

Bristol City Mental Hospital.—Med. Supt. 1000.

Canterbury, Kent County Mental Hospital, Chartham.—Asst. M.O. £350.
Cardiff Royal Infirmary.—H.S. and Cas. Surg. O. £100.
Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C.—Res. H.S. £75.
City of London and East London Dispensary, 40, Wilson-street, Finsbury, E.C.—Additional M.O.
Edinburgh Royal Infirmary.—Supt. £700.
Federated Malay States Hospitals.—Radiologist. £840.
Grimsby and District Hospital.—Jun. H.S. £125.
Hampstead General and North-West London Hospital, Haverstock-hill, N.W.—H.P., H.S., Cas. M.O. and Cas. S.O. Each £100.
Hampstead, Parish of St. John, New End Hospital.—Sen. and Jun. Res. Asst. M.O.'s. £250 and £150 respectively.
Hospital for Sick Children, Great Ormond-street, W.C.—H.S. and H.P. £50.
Huddersfield, Bradley Wood Sanatorium, &c.—Res. M.O. £500.
King's College Hospital.—Out-patient P., &c.
Lincoln County Hospital.—Sen. H.S. £250.
London Temperance Hospital, Hampstead-road, N.W.—Cas. O. £150.
Manchester Royal Infirmary.—Asst. Res. Surg. O. £200.
Metropolitan Hospital, Kingsland-road, E.—Asst. P.
National Hospital for the Paralysed and Epileptic, Queen-square, W.C.—Asst. P.
Oxford, Radcliffe Infirmary and County Hospital.—Res. Accoucheur. £120.
Prince of Wales's General Hospital, Tottenham, N.—H.S. £150.
Queen Mary's Hospital for the East End, Stratford, E.—Res. M.O. and Res. Obstet. S.
Rochester, St. Bartholomew's Hospital.—H.P. £200.
Royal Free Hospital, Gray's Inn-road, W.C.—Med. Reg., Surg. Reg., and Gyn. Reg. Each £250. Cas. O. £100. H.S. (M.M.S.) and Obstet. Asst. £50 each. Also H.P., H.S., Asst. Cas. O., and Obstet. H.S.
Royal London Ophthalmic Hospital.—Six Refraction Assts. £50 each.
Royal National Orthopædic Hospital, 234, Great Portland-street, W.—Hon. P.
Royal Northern Hospital, Holloway, N.—Asst. Radiologist. £150. Also Phys.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—H.P. and H.S. Each £100.
Sheffield Royal Hospital.—Asst. Cas. O. £100.
Union of South Africa Govt.—Asst. P.'s. £460.
Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Dent. S.
Western Ophthalmic Hospital, Marylebone-road, N.W.—Hon. Asst. S. 100 guineas.
West London Hospital, Hammersmith-road, W.—H.P., H.S., Aural H.S. and Res. Cas. O. Each £100.
Windsor, King Edward VII. Hospital.—Jun. H.S. £140.

The Chief Inspector of Factories, Home Office, London, S.W., announces vacant appointments at Osmotherley (Yorks, North Riding), Long Sutton (Lincs), Sedbergh (Yorks, West Riding), and Redcar (Yorks, North Riding).

Births, Marriages, and Deaths.

BIRTHS.

BLAIR.—On Nov. 10th, at Westwood, The Park, Hull, the wife of R. Bertram Blair, M.B., F.R.C.S. Edin., of a son.
CLARKE.—On Nov. 13th, at Baldwyn's Park, Bexley, the wife of Geoffrey Clarke, M.D., of a daughter.
NORMAN.—On Nov. 8th, at Kasauli, India, the wife of Brevet-Colonel H. H. Norman, C.B.E., R.A.M.C., of a daughter.
PEEBLES BROWN.—On Nov. 12th, at Arncliffe, Malton, Yorkshire, the wife of Dr. D. Peebles Brown, of a daughter.
WATSON.—On Nov. 16th, at Parkside, Reigate, the wife of Lieut.-Colonel J. W. Watson, I.M.S., C.I.E., Ajmer, Rajputana, of a daughter.
WOODHOUSE.—On Nov. 9th, at The Shrublands, Croydon, the wife of S. C. Woodhouse, M.B., M.R.C.S., of a daughter.

MARRIAGES.

LAWRENCE—SANDELL.—On Nov. 20th, 1923, at the Church of St. Ambrose, Bournemouth, Sidney C. Lawrence, M.B., Ch.B. Birm., M.R.C.S. Eng., L.R.C.P., D.P.H. Lond., to Miss E. M. Sandell, of Devizes and Bournemouth.

DEATHS.

BEATTY.—On Nov. 8th, at his residence, Merrion-square, Dublin, Wallace Beatty, M.D., F.R.C.P.I., aged 70 years.
BROOKHOUSE.—On August 20th, at his residence, Ashby House, Tweedy-road, Bromley, Kent, Charles Turing Brookhouse, M.D., J.P., aged 76. (Delayed notice.)
JAMES.—On Nov. 15th, at Chichester, George Thomas Brooksbank James, F.R.C.S., aged 56.
JONES.—On Nov. 16th, at The Willows, Stanford Dingley, near Reading, John Hervey Jones, M.D. London, M.R.C.S., L.R.C.P., B.Sc., aged 62. No flowers by request.
LOVE.—On Nov. 18th, at Upper Grosvenor-road, Tunbridge Wells, Dr. J. Duncan Love, late of Monkseaton, aged 54 years.
TEALE.—On Nov. 13th, at North Grange, Headingley, Leeds, Thomas Pridgin Teale, in his 93rd year.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, Nov. 26th.

ODONTOLOGY: at 8 P.M.
Casual Communications:
Mr. A. T. Pitts: (1) ? Dermoid Cyst of Mandible; (2)]Dentigerous Cyst apparently arising from a Supernumerary Tooth.
Discussion:
On Pyorrhœa, its Prevention and Treatment. To be opened by Mr. J. G. Turner.

Tuesday, Nov. 27th.

GENERAL MEETING OF FELLOWS: at 5 P.M.
Ballot for election to the Fellowship. (Names already circulated.)
MEDICINE AND SURGERY: at 5.30 P.M. and 8.45 P.M.
Joint Discussion:
On the Surgical Treatment of Pulmonary Tuberculosis. To be opened by Prof. P. Bull (Christiania) and Dr. Clive Riviere, followed by Mr. H. Morriston Davies, Dr. E. Beaumont, Mr. J. E. H. Roberts, Dr. S. Vere Pearson, Dr. L. S. T. Burrell, and Dr. F. G. Chandler.
Dr. Stanley Melville will show X ray photographs.

Wednesday, Nov. 28th.

COMPARATIVE MEDICINE: at 5 P.M.
Paper:
Dr. S. G. Billington: Some Unusual Methods of Culturing the Blood, with special reference to Distemper. (With lantern and microscopical slides.)

Thursday, Nov. 29th.

BALNEOLOGY AND CLIMATOLOGY: at 5 P.M.
Discussion:
On Diuresis. To be opened by the President, Dr. Charles W. Buckley
Members of the Section will dine together after the meeting (at 7.30 P.M.) at the Boulogne Restaurant, 27, Gerrard-street, Wardour-street, W. 1. Price of dinner, 10s. 6d. Those intending to dine are asked to notify the Hon. Secretary (Dr. C. F. Sonntag) not later than Monday, November 26th.
MEDICINE, THERAPEUTICS, AND PHARMACOLOGY.
Members of these Sections are cordially invited to attend and to take part in this discussion.
UROLOGY: at 8.30 P.M.
Paper:
Mr. J. Swift Joly: The Mechanism of Prostatic Retention.

Friday, Nov. 30th.

BALNEOLOGY AND CLIMATOLOGY.
The arrangements for this meeting will be announced.

Saturday, Dec. 1st.

ANÆSTHETICS: at the Medical Institute, Edmund-street, Birmingham, at 4.45 P.M.
Papers:
Dr. K. B. Pinson: The Condensation of Di-methyl Ether and its Use as an Anæsthetic Agent.
Mr. Leonard Gamgee: A Surgeon's Thoughts on Anæsthesia.
Mr. L. Kirkby Thomas will show Dr. Dott's apparatus for endotracheal anæsthesia.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W. 1.
MONDAY, Nov. 26th.—8.30 P.M., Discussion on the Treatment of Acute Suppurative General Peritonitis. To be introduced by Mr. Sampson Handley, and followed by Mr. James Berry, Sir Cuthbert Wallace, Mr. Garnett Wright, Mr. H. W. Carson, Mr. R. P. Rowlands, Mr. V. Z. Cope, Dr. H. H. Rayner, Mr. T. H. C. Benians, and others.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester-square, W.C.
FRIDAY, Nov. 23rd.—4.30 P.M., (1) Clinical Cases; (2) Pathological Specimens. 5.15 P.M., Dr. A. Knyvett Gordon: The Clinical Value of Certain Pathological Tests in Dermatology.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.
WEDNESDAY, Nov. 28th.—8 P.M., Sir Henry John Gauvain: The Effect of Sun, Sea, and Open-air in the Treatment of Disease.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE, 1, Wimpole-street, W.
MONDAY, Nov. 26th, to THURSDAY, Nov. 29th.—Lectures at Chelsea Hospital for Women, London Lock Hospital, Maudsley Hospital, Royal Westminster Ophthalmic Hospital, and the Western General Dispensary (Children's Clinic).

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.
MONDAY, Nov. 26th.—10 A.M., Mr. Maingot: Surgical Pathology. 12 noon, Mr. Simmonds: Applied Anatomy. 3 P.M., Mr. Simson: Diseases of Women.
TUESDAY.—10.30 A.M., Dr. Paterson: Medical Wards. 12 noon, Dr. Burrell: Chest Cases. 2.30 P.M., Mr. Tyrrell Gray: Surgical Wards.

WEDNESDAY.—10 A.M., Dr. Saunders: Medical Diseases of Children. 12.15 P.M., Dr. Burnford: Medical Pathology. 3 P.M., Dr. Pernet: Skin Dept.
THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Dept. 11 A.M., Mr. Simson: Gynæcological Demonstration. 2 P.M., Mr. MacDonald: Genito-Urinary Dept.
FRIDAY.—10 A.M., Dr. Drummond Robinson: Gynæcological Operations and Wards. 2 P.M., Mr. Banks-Davis: Throat, Nose, and Ear Dept. 2 P.M., Mr. Sinclair: Surgical Out-patients.
SATURDAY, Dec. 1st.—9.30 A.M., Dr. Burnford: Bacterial Therapy. 10 A.M., Dr. Saunders: Medical Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.
Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M., In-patients, Out-patients, Operations, Special Departments.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C. 1.

POST-GRADUATE COURSE: OCTOBER–NOVEMBER, 1923.

CLINICAL LECTURES AND DEMONSTRATIONS.

MONDAY, Nov. 26th.—2 P.M., Out-patient Clinic: Dr. Hinds Howell. 3.30 P.M., Optic Atrophy: Mr. Leslie Paton.
TUESDAY, Nov. 27th.—2 P.M., Out-patient Clinic: Dr. Grainger Stewart. 3.30 P.M., Tumours of the Spinal Cord: Mr. Armour.
THURSDAY, Nov. 29th.—2 P.M., Out-patient Clinic: Dr. Kinnier Wilson. 3.30 P.M., Demonstration of X Ray Photographs: Dr. Russell Reynolds.
FRIDAY, Nov. 30th.—2 P.M., Out-patient Clinic: Dr. Gordon Holmes. 3.30 P.M., Demonstrations of Physical Exercises in Exercise Room.

COURSE OF LECTURES AND DEMONSTRATIONS ON NEURO-PATHOLOGY.

MONDAY, Nov. 26th.—12 noon, Reactionary Changes in Central Nervous System. II.: Dr. J. Godwin Greenfield.
Mr. Armour and Mr. Sargent operate at the Hospital on Tuesday and Friday mornings at 9 A.M., or at such other times as may be announced.
Any part of the Course may be taken separately. Fees should be paid to the Secretary of the Hospital at the Office on entering for the Course.
Dr. J. GODWIN GREENFIELD, Dean of Medical School.

UNIVERSITY COLLEGE HOSPITAL.
WEDNESDAY, Nov. 28th.—5 P.M., Dr. Charles Singer: Early Medical Books.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.
THURSDAY, Nov. 29th.—5 P.M., Mr. T. B. Davies: Diagnosis and Treatment of Antepartum Hæmorrhage.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
THURSDAY, Nov. 29th.—4 P.M., Dr. Frew: Enuresis.

ST. JOHN'S HOSPITAL, 49, Leicester-square, W.C.
TUESDAY, Nov. 27th.—5 P.M., Dr. J. M. H. MacLeod: Leprosy.
THURSDAY.—5 P.M., Dr. W. Griffith: Erythemato-squamous Dermatoses.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell-square, W.
WEDNESDAY, Nov. 28th.—4 P.M., Dr. Kate Platt: Problems in Relation to Health in the Tropics.

THE PEOPLE'S LEAGUE OF HEALTH, 12, Stratford-place, Oxford-street, W.
Eight Lectures on the Mind and What We Ought to Know About It, at Hamilton House, Mabledon-place, W.C.
WEDNESDAY, Nov. 28th.—6 P.M., Fifth Lecture, Sir Robert Armstrong-Jones: Fatigue and Sleep.

MEDICAL OFFICERS OF SCHOOLS ASSOCIATION, 11, Chandos-street, Cavendish-square, W. 1.
THURSDAY, Nov. 29th.—5.15 P.M., Dr. H. Crichton Miller and Dr. H. C. Cameron: The Nervous Child (Discussion).

UNIVERSITY OF LIVERPOOL POST-GRADUATE LECTURES.
(At 3.30 P.M. each day.)
MONDAY, Nov. 26th.—(At the Children's Hospital.) Dr. Johnson: Paralysis of Spinal Origin.
TUESDAY.—(At the Southern Hospital.) Mr. Nuttall: The Clinical Diagnosis of Peptic Ulcer.
WEDNESDAY.—(At the Northern Hospital.) Dr. M. Bligh: The Diagnosis of Meningitis.
THURSDAY.—(At the Stanley Hospital.) Dr. Gordan Gullan: Nephritis and its Treatment.
FRIDAY.—(At the Royal Infirmary.) Mr. Kelly: Surgical Cases.

UNIVERSITY OF SHEFFIELD POST-GRADUATE LECTURES.
TUESDAY, Nov. 27th.—(At the Jessop Hospital.) 3.30 P.M., Mr. King: Symptoms and Diagnosis of Adenomyoma of the Pelvis.
FRIDAY.—(At the Royal Hospital.) 3.30 P.M., Dr. Percival Hay: Iritis.

MANCHESTER ROYAL INFIRMARY.
TUESDAY, Nov. 27th.—4.15 P.M., Mr. W. R. Douglas: Chronic Mastitis.
FRIDAY.—4.15 P.M., Prof. J. S. B. Stopford: The Sensory Pathway.

SALFORD ROYAL HOSPITAL.
(Special Course on Surgical Tuberculosis.)
THURSDAY, Nov. 29th.—4.30 P.M., Mr. R. Ollerenshaw: Joint Tuberculosis.

Notes, Comments, and Abstracts.

PROGRESS OF MEDICINE AND SURGERY IN IRELAND.

An Abstract of the Fellowship Address delivered at the Clinical Congress of the American College of Surgeons, Chicago, on Oct. 26th, 1923,

BY SIR W. I. DE C. WHEELER, M.D. DUB., F.R.C.S. IREL.,
PRESIDENT, ROYAL COLLEGE OF SURGEONS IN IRELAND.

[AFTER expressing thanks and appreciation concerning his election as an honorary Fellow of the American College of Surgeons and for the high compliment of being asked to deliver the Fellowship Address, the speaker continued:—]

It is natural that we in the surgical profession in Ireland give pride of place to American surgeons deep down in our hearts. Many of the greatest of them bear Irish names; we are kinsmen, blood is thicker than water, and, furthermore, the donors and the recipients in the transfusion of the two races belong to the same group. May the members of the medical profession of the two lands be joined in brotherhood for ever in the service of mankind.

Influence of Travel.

Uppermost in my thoughts at the moment is the influence of travel, of reading, of writing, and even of speech-making, on the progress of surgery; and here I turn to the great Osler, born in Canada, adopted by America, embraced by England, and beloved by all. He refers to students who wish to have the best that the world offers. "Let me suggest," says he, "that the lines of intellectual progress are veering strongly to the West, and I predict that in the twentieth century the young English physicians will find their keenest inspiration in the land of the setting sun." He had, as we have in Ireland, "a love for the land where dreams come true; dreams of more secure reward for honest industry; dreams of freedom from the irksome restraints and conventions which have outlived their day; dreams of equality, not of the cap-in-hand apologetic kind, but frankly avowed and sincerely prized equality which makes the exceptional truckling to rank by the few a subject of hearty laughter." I have quoted the words just now of my father-in-law, who last year returned from America, after a memorable experience as the guest of the American Bar Association.

A close connexion exists between medicine and the law, and each in turn is linked up from times immemorial with literature and the church. What a combination of forces, what an irresistible army, brothers in arms defending the strongholds of science and learning, allies taking the offensive against ignorance and error.

But let us return for a moment to the question of travel, for those of us who live in a small island find it difficult to realise and to attach sufficient importance to such matters. Osler, with a great wide outlook, deplores intellectual infantilism and that disease known as Progeria, in which, as if by the touch of the wand of some malign fairy, the victim skips adolescence, maturity and manhood, and passes to senility, wrinkled and stunted, a little old man amongst his toys.

Have any of you great consultants in a big land seen cases of swelled head and writer's cramp sometimes develop from never using the pen? In small countries such conditions often run hand in hand with the ailments to which Osler refers. "Ten years of successful work in a small place may tend to make a man touchy, dogmatic, intolerant of correction, and abominably self-centred," unless he seeks inspiration and enlightenment from his brothers abroad.

Journal and Monograph versus Text-book.

Travel, reading, and writing are as sign-posts pointing the direction of the straight road which leads to scientific achievement and to legitimate success. By looking and reading we are enabled to avoid the luring and darkened pathways which, no doubt, may end for some in material possession and prosperity, but without real reward. Such pathways are also open to the medical frequenters of race meetings and saloons and to gamblers on the Stock Exchange. Progress along the straight road is not easy.

With regard to writing: I have seen men—some of them colleagues of my own in the surgical profession in Dublin—dictate without note or reference work of first importance in unsurpassed language and with little effort. To others, writing is a grind, a laborious task. Books and the printing press have accomplished wonders in helping forward the surging throng in search of truth. Journal literature and monographs are the literary rocks on

which workers in medicine and surgery should be content to stand. Text-books fall by making mountains out of molehills, and persisting in the retention of unwieldy classifications and bewildering names. I have been told of students in their final academic years, who, by misdirected diligence in the lecture theatres and libraries, were left uncertain whether anaphylaxis and prophylaxis were medical terms, or the names of Russian and Grecian generals.

Medicine in Ancient Ireland.

Much of the ancient medical history of Ireland is traditional and legendary, but the people in bygone days were not devoid of literary culture. It is interesting to note that the Royal College of Surgeons in Ireland was the first modern licensing corporation in Great Britain and Ireland to admit women, and to appoint them to the highest offices in its gift. The ancient laws of Ireland, the Brehon laws, codified at the request of St. Patrick, A.D. 438, refer to the remuneration and responsibility of medical men. If one person wounded another, the aggressor not only was obliged to pay a fine to the injured one, but provide him as well with maintenance and skilled medical care. What a pity the Brehon laws are not still in force! The profession of physic passed from father to son, an Irish custom which persisted until comparatively recent times. The ancient Irish doctor was shrewd enough to travel. He found inspiration in the work of his foreign colleagues, and taught posterity an important lesson thereby. Representative Irishmen of all professions remained abroad, and were found occupying distinguished positions in the various schools of Europe.

Ancient manuscripts prove how admirably Irish physicians kept in touch with the advances of learning in continental centres; a thirst for knowledge, augmented by a keen observation of the sick under their care, brought medical and surgical science to a high pitch of perfection in the Ireland of bygone days. Towards the end of the sixteenth century progress came to a standstill. Science and art decayed; Ireland was torn by strife, no shelter for learning remained, and the old worthy position held when Egyptian, Grecian, and Roman thought dominated the world, was lost to Ireland for a time. This relapse was intensified by the failure of the Irish to grasp the revolution in learning brought about by the printing press. The art of printing was neglected until nearly 100 years after its adoption by the progressives of other lands.

This was a distressing period for Irishmen to contemplate, but soon came a reaction, and we turn over the pages of medical history to find, after 100 years, the names of Colles, Graves, Stokes, Corrigan, Butcher, Tufnell, and many others. In recent years Irish surgeons and physicians have been engaged in a heart-breaking struggle in their efforts to advance, and this brings me to the antagonism which exists between the ideals of the medical profession, on the one hand, and the ideals of politicians on the other. The term politicians does not include those great statesmen to whom the very life of liberty now, and in the past, owes its existence, nor does it apply to those unostentatious whole-souled individuals who give their lives to the public service. I use it in the broadest sense to include those whom the world would be better without.

After all, our entire outlook on life, from the time we enter the medical school until we pass on into silence, is entirely different from the view taken by politicians and their cult. Whether we are biologists or craftsmen, we try to keep on a path which takes a direction through accurate observation and logical reasoning to the goal of scientific truth. The road of political life, on the other hand, leads, through a jungle of words and sentences, to ambiguity and nowhere. Modern statecraft, to some extent, is based on the belief that the world can only assimilate small doses of truth at a time, that a big dose is poisonous and liable to kill, and that the public should be cured of their political ills by homœopathic methods. "I always hold," said Mr. Gladstone, "that politicians are the men who, as a rule, are the most difficult to comprehend."

The College of Surgeons in Ireland.

When the College of Surgeons in Ireland was born, in 1783, political upheavals were the order of the day. On recent events I need not touch, beyond this, that we in the College are trained to be optimists, and to assume that, until a patient is dead, our efforts at treatment will be rewarded by success. Our optimism extends to a profound belief in our country, and that the present ship of State will be steered into peaceful and happy channels.

Few institutions in Ireland can claim a record such as ours over 140 years. If anyone should ask me how it is that this College of ours has survived in a robust condition through all the storms and passions of the past and present, I would say because it rested content in strictly attending to its own affairs.

America has taught us the power of self-reliance; we have felt her influence, and have been stimulated by her example. I bring you, then, fraternal greetings on your tenth birthday from the medical profession in Ireland, and the hope that as one decade follows another you may continue to advance and prosper, until finally your great efforts will triumph over the diseases which are decimating mankind, and that you will be crowned by humanity itself with the laurels which belong to victory.

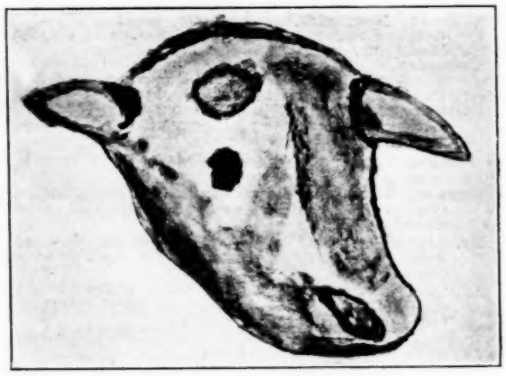
A PREHISTORIC BULL.

To the Editor of THE LANCET.

"Non cuivis homini contingit adire Corinthum."

SIR,—A free translation, up-to-date, of the above Horatian verse may perhaps be allowed: "We cannot all hunt for fossils in the Gobi desert." At the same time, by means of a habit of observation useful finds may be made even in the London desert.

For about 18 months I have been watching a strange mark in a York paving-stone on Haverstock-hill, Hampstead. The wear and tear of innumerable feet has brought to light



a fine section of a bovine head, showing crest, horns with their cores, one orbit, one nostril, and muzzle. The accompanying illustration is from a reduced drawing. Mr. Winter, the Hampstead Borough Engineer, has kindly had the stone removed for safety to the Town Hall. According to Prof. Geikie's geology York stone is either Permian or Triassic. Possibly human remains may be discovered in a similar deposit. I am, Sir, yours faithfully,

VERE G. WEBB, M.R.C.P. Irel.

Haverstock-hill, N.W., Nov. 20th, 1923.

PUBLIC HEALTH IN ST. LUCIA.

THE total population on Dec. 31st last was 53,221 (24,399 males and 28,822 females), or 228 to the square mile. The birth-rate in 1922 was 39·0 per 1000 and the death-rate 26·0 per 1000. The principal hospital, the Victoria, is situated within half a mile of Port Castries, and is in charge of a resident surgeon, who has under him a European matron and a full staff of dispensers and nurses. There were 1571 patients admitted during the year, the daily average number under treatment being 76·3. The surgical operations carried out numbered 421. There is a wing attached to the hospital known as the "Baron Ward," in which patients of the wealthier class may receive medical and surgical treatment. Extensive use is made of this ward and during the year the fees received from persons treated therein amounted to £200. Twenty-six patients were admitted to the lunatic asylum at La Toc, the daily average number in confinement being 90·2. One inmate was discharged as cured and ten died. Asylums for paupers and for persons suffering from yaws and leprosy are located in the Soufriere district under the supervision of the medical office of that district and a visiting advisory committee. The daily average number of inmates in the pauper asylum was 93. At the yaws asylum seven patients were admitted and ten discharged. The treatment by kharsivan at the outdoor dispensaries throughout the colony of persons suffering from the disease has proved so successful that it is hoped in the near future to close this hospital entirely. There were 15 patients in the leper asylum at the commencement of the year, and three were admitted; there were three deaths and no discharges. At Dennery, Soufriere, and Vieux Port there are small casualty hospitals for accident and emergency cases; 14 patients were admitted during the year to these institutions.

W. H. C.—Hartmann's pouch is an anatomical structure and is not known to have any pathological significance although it is apt to obtrude on the surgeon who is performing a cholecystectomy.